

AN EXPLORATION OF IMPOVERISHED BELIZEAN FEMALE FARMERS' LIVED
EXPERIENCES IN PRODUCING FOOD FOR THEIR FAMILIES AND COMMUNITIES

A THESIS SUBMITTED TO THE GRADUATE SCHOOL
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE
MASTER OF SCIENCE

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BALL STATE UNIVERSITY
MUNCIE, INDIANA
DECEMBER 2017

DEDICATION

This thesis is dedicated to the female farmers around the world who selflessly and tirelessly work to provide for their families and local communities.

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ACKNOWLEDGEMENTS

To my faculty advisor and thesis committee chair, **Dr. Joshua Gruver**: thank you for introducing research methods to me, promoting the value of qualitative research, guiding me toward phenomenology, honing my research idea and methodology, and providing mentorship throughout this endeavor. Thank you, also, for inspiring me to delve deeper into some of the greatest challenges and opportunities of our time relating to local food systems, food policy, and all of the complexities of food security, both domestically and internationally. Your leadership over the last two years will certainly have a great impact on my future work.

To my thesis committee members, **Dr. Teresia Mbogori** and **Dr. Amy Gregg**: thank you for selflessly committing to serve on my thesis committee, reviewing my proposal and thesis, offering your expert feedback and guidance, and providing direction. I have valued and very much appreciated your respective contributions.

To my local liaison, **Dr. Deborah McMillan**: thank you for connecting me with the local community in Punta Gorda, organizing communications with my local contact prior to my travels, providing information about the local culture, and helping to put my research project into a local context. Conducting my research would not have been possible without your support.

To my local partner, **University of Belize**, and my local contact, **Mr. Roy Polonio**, his wife, and their three young daughters: thank you for your generous hospitality and for coordinating all logistics. Thank you for identifying potential participants, arranging interview schedules, and organizing and providing transportation. Thank you, also, for warmly welcoming me into your community, sharing meals, and allowing me to tour your farm.

To Ball State University's **ASPiRE Internal Grants Program**: thank you for providing funding to support my flight to and from Belize. To the **Department of Natural Resources and**

Environmental Management: thank you for providing funding to support my in-country flights in Belize. Both sources of funding helped significantly to reduce any financial burden.

ABSTRACT

Despite the progress that has been made toward reducing worldwide hunger and malnutrition, around the globe, and particularly in developing countries, people continue to experience food insecurity. Latin America and the Caribbean are no exception, especially in the rural agricultural regions where poverty is most widespread and severe. The Food and Agriculture Organization of the United Nations (FAO), United Nations World Food Programme (WFP), International Fund for Agricultural Development (IFAD), and U.S. Government Feed the Future Initiative (FTF) all agree that agricultural growth, led by rural women, could reduce world hunger significantly. But, due to socially determined gender roles that are shaped by a number of cultural factors, women tend to encounter financial, legal and cultural barriers that prevent them from expanding their agricultural production. The overarching goal of this research study is to help inform the literature regarding the challenges that impoverished women face in attempting to contribute to the reduction of global hunger.

This qualitative phenomenological research study employed interviews to yield a thick, rich description of impoverished Belizean female farmers' lived experiences in producing food for their families and communities. The primary data collection – unstructured interviews with eight female farmers – took place over the course of one week, in January 2017, in the Maya and Garifuna ethnic villages in the Toledo District of Southern Belize. The study found that the female farmers experience nine barriers to producing food for their families and communities: 1.) seasonal hardships; 2.) incessant pests; 3.) lack of resources; 4.) lack of finances; 5.) lack of knowledge and/or fear about financial loans; 6.) lack of access to lucrative markets; 7.) lack of education; 8.) lack of supportive resources; and 9.) high educational fees. The final products of this research study include a list of recommendations for the key stakeholders (e.g. the national

Belizean government, policy and research institutions, international development agencies, and traditional and/or micro finance institutions, among others) that, if implemented, will lessen the impact of the identified barriers, and a conceptual framework that can be evaluated for accuracy and precision in later research.

INTRODUCTION

During the summer of 2012, I traveled to Alajuelita, Costa Rica, a severely impoverished urban community located on the outskirts of San Jose, to serve with a non-profit organization, delivering emergency food to people facing extreme food insecurity and starvation. It was here that I met a desperate woman living in a corrugated tin shack who had recently lost her three month old infant to a disease that was complicated by malnutrition. This experience served as a catalyst for me to pursue an advanced degree and to contribute to the research that informs one of the greatest challenges and opportunities of our time: ensuring food security around the world.

Unfortunately, this heart-wrenching scenario is much too common in developing parts of the world. On any given day, approximately 8,500 children under the age of five will die around the world as a result of poor nutrition (United Nations World Food Programme (WFP), 2015). In Latin America and the Caribbean, specifically, despite recent food security achievements, hunger still affects 34 million people (Food and Agriculture Organization of the United Nations (FAO), 2015). The overarching goal of this research study is to help inform the literature regarding the challenges that impoverished women face in providing for their families and communities.

In September 2015, the United Nations (UN) adopted Sustainable Development Goals (SDG) to help guide international development for the next 15 years. SDG 2 states: “End hunger, achieve food security and improved nutrition and promote sustainable agriculture” (UN, 2015). There are many avenues to achieving this goal, one of which is to accelerate growth in the agriculture sector (Feed the Future (FTF), 2015), particularly traditional small farms. Small scale farms contribute significantly to local food security (Altieri, 2009), and the contribution of rural women is essential in agricultural production, food security and the development of their communities (FAO, 2015). It is estimated that, if agricultural output by women were equivalent

to agricultural output by men, the number of undernourished people in the world would be reduced by 12-17% (FAO, 2011); (Ramirez, 2011). But, female farmers struggle to increase their agricultural output because they face more severe constraints than men in accessing productive resources, markets, and services (FAO, 2011).

Women in Latin America and the Caribbean receive only 10% of total loans (FAO, 2015), often times because they lack the collateral to obtain the resources to access credit (Ahmed, et al, 2007). Furthermore, women face legal and social barriers that limit their access to necessary resources (FAO, 2011). For example, the gender asset gap in land in Latin America can be attributed to male preference in inheritance, male privilege in marriage, male bias in both community and state programs of land distribution, and gender bias in the land market (Deere and Leon, 2003). While gender roles, which are shaped by ideological, religious, ethnic, economic and cultural factors, are a key determinant in the distribution of resources between men and women, fortunately, since these constraints are almost entirely socially determined, they can be changed (FAO, 2011).

In order to accelerate growth in the agriculture sector, it is vital that institutions and policies promote and support women's rights to resources (Phillips, 2009). Yet, currently, women are often not treated as an integral part of policy and programming, and building gender into policies and projects has been made to seem difficult and complex (FAO, 2011). Policy-makers, donors and development practitioners need information about the specific challenges that women face in the agricultural sector so that their policies can better incorporate gender (FAO, 2011).

The literature lacks rich, thick, descriptive qualitative research that relates the experiences of the female farmers who provide food for themselves, their families and

communities. Therefore, *the purpose of this research study is to relate the experiences of the impoverished female farmers in the rural, agricultural region of Southern Belize*. The main research question is: *When attempting to provide food and other necessities for their families and/or local communities, what barriers do impoverished Belizean female farmers experience?*

To answer this question, a qualitative research study was conducted, employing the phenomenological design of inquiry to engage impoverished Belizean female farmers in extensive, conversational, unstructured interviews about their experiences providing food and other necessities for their families and local communities. In January 2017, eight female farmers across four rural villages in Southern Belize participated in the study, sharing the intimate details of their lives on and off the farm.

LITERATURE REVIEW

Overview: The literature review begins with a definition of food security and a comprehensive overview of the state of hunger, both globally and in Latin America and the Caribbean, the geographic focus of this research study. This introductory section explores the demographics of the hungry, the recently achieved progress relating to hunger, and current hunger goals, as defined by international development and governmental agencies. Following this section, the literature review discusses one proposed pathway to decreasing global hunger and malnutrition – the promotion of women-led, small farm sustainable agriculture – and assesses gender trends in agriculture in Latin America and the Caribbean. Next, the literature review examines a significant challenge to the proposed pathway to decreasing global hunger and malnutrition – gender inequality in accessing productive resources – and introduces micro finance as a viable productive resource for female farmers. Finally, the literature review concludes by reviewing two related research studies in Latin America and the Caribbean, noting their respective challenges and findings, and providing an overview of the Belizean population and agriculture industry.

Food Security, Defined: The 1996 World Food Summit defined food security to exist when “all people at all times have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life.” The four dimensions of food security include: 1) physical **availability** of food; 2) economic and physical **access** to food; 3) food **utilization**; and 4) **stability** of the other three dimensions over time.

The State of Hunger – Globally and in Latin America and the Caribbean: About 793 million people are undernourished globally, and approximately 98% of them live in developing countries (FAO, 2015). Three-quarters of these hungry people live in rural areas and are

overwhelmingly dependent on agriculture for their food and income; half of them live in smallholder farming communities; and twenty percent are “landless” yet depend on farming (WFP, 2015). Hunger discriminates against women and children; 17 million babies are born underweight annually, and a total of 146 million children are underweight in developing countries due to acute or chronic hunger (WFP, 2015).

Recently, Latin America and the Caribbean met international hunger goals (Millennium Development Goals and World Food Summit goal) by halving the percentage and total number of undernourished people, success which can be attributed to the countries’ political commitments to fighting hunger (FAO, 2015). But, despite the enormous progress, hunger still affects 34 million people in the region (FAO, 2015). Therefore, with more work to do, the Community of Latin American and Caribbean States (CELAC), through its plan for Food Security, Nutrition and Hunger Eradication, proposed the Hunger Free Latin America Initiative, a pledge to completely eradicate hunger by 2025.

Feed the Future (FTF), the U.S. government’s global hunger and food security initiative, agrees with the notion that more work is left to do when it comes to fighting food insecurity in Latin America and the Caribbean. FTF’s “2015 Achieving Impact: Leadership and Partnership to Feed the Future” report states, “In parts of Latin America and the Caribbean, food insecurity and poor nutrition together pose one of the greatest obstacles to economic growth and social development.” Although the region has made great progress recently by reducing the number of undernourished people in the region to 5.5% and poverty has decreased in the region since 2002, extreme poverty has increased in recent years (FTF, 2015).

According to the FAO’s “2015 Regional Overview of Food Insecurity: Latin America and the Caribbean” report’s Table 1. “Number (million people) and prevalence (%) of hunger in

Latin America and the Caribbean,” the region’s countries with the highest prevalence of hunger include Haiti (53.4%), Nicaragua (16.6%), and Bolivia (15.9%); and projections for the highest increases in prevalence of hunger between 2010-2012 and 2014-2016 include Haiti (49.3% to 53.4%), Guatemala (14.8% to 15.6%), and Belize (5.7% to 6.2%).

Improving Food Security through Women-led, Small Farm Sustainable Agriculture:

Globalization and the exportation of food is hurting developing countries and making it more difficult for them to feed themselves (Altieri, 2009). Furthermore, free trade has increased rural poverty, forcing developing countries to open their markets to unfair competition (Gonzalez, 2002). Conversely, traditional, small farm agriculture supports ecology, food sovereignty, and food security (Altieri, 2009). But, the development of sustainable agriculture requires significant social changes which will require social movements that transform the institutions and regulations that are currently holding back sustainable agriculture development (Altieri, 2009).

Altieri suggests:

Only by changing the export-led, free-trade based, industrial agriculture model of large farms can the downward spiral of poverty, low wages, rural-urban migration, hunger, and environmental degradation be halted. Social rural movements embrace the concept of food sovereignty as an alternative to the neoliberal approach that puts its faith in an inequitable international trade to solve the world’s food problem. (Altieri, 2009, p. 111)

Beckford agrees with Altieri, claiming that neither food imports, nor food aid, can solve the developing world’s food security challenges, but increased productivity will lead to food self-sufficiency (Beckford, 2012). Beckford advocates for small hold farmers, particularly females, focusing on the importance of building their capacities to increase local production and self-sufficiency (Beckford, 2012). He promotes “reimagining the role of women” in food production and increasing their participation in the food security endeavor (Beckford, 2012). He suggests:

Food security strategy...must create conditions for females to improve their own food security and their families', improve nutrition, and achieve greater economic independence. (Beckford, 2012, p. 30)

The UN's newly-adopted SDGs align well with the concepts discussed above. SDG 2, which states "End hunger, achieve food security and improved nutrition and promote sustainable agriculture," includes the following target: "By 2030, double the agricultural productivity and incomes of small-scale producers, in particular women [and] indigenous people...through secure and equal access to land, other productive resources and inputs, knowledge [and] financial services..." In addition, SDG 5, which states, "Achieve gender equality and empower all women and girls," includes the following target: "Undertake reform to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with natural laws." It is clear that the UN supports a social rural movement that puts women at the forefront of the food security challenge.

Gender Trends in Agriculture in Latin America and the Caribbean: In Latin America and the Caribbean, over the last several decades, the participation rate of men in the rural labor force (agricultural and non-agricultural sectors combined) has remained relatively constant at approximately 77%, while the participation rate of women has drastically increased, with a significant leap from approximately 23% in 1980 to approximately 30% in 2000 (FAO, 2003). However, the evidence for increased women's participation rates in agriculture, specifically, are incomplete and contradictory (FAO, 2003). United Nations Economic Commission for Latin America and the Caribbean (CEPAL) data estimates show that women's overall participation in the Latin American agriculture sector decreased from 13% in 1970 to 10% in 1990 (FAO, 2003). However, in some cases, and in certain countries, the data seem to indicate that women's

participation rates have increased (FAO, 2003). For example, the International Labor Organization (ILO) estimated that, between 1980 and the 1990s female participation rates in agriculture have increased in Costa Rica by an average of 3.1% annually and in Chile by an average of 4.1% annually (FAO, 2003).

Of those women who do participate in agriculture, a small minority are decision makers on the farm. For example, in Panama and Nicaragua, the rates of female “principal farmers” are 11% and 13%, respectively (FAO, 2003). Division of labor among men and women is also worth mentioning. In Latin America and the Caribbean, women’s rates of involvement in certain crop production activities is as follows (men’s rates of involvement in parentheses): land preparation 38% (64%); planting 60% (65%); crop care 46% (69%); harvest 70% (63%); post-harvest 51% (39%); marketing/sales 49% (48%) (Kleysen, 1996).

Gender Inequality in Accessing Productive Resources to Support Agricultural Endeavors: Although women make contributions to agriculture, a glaring gender gap continues to exist in accessing productive resources, markets and services (FAO, 2011). Female farmers are as efficient as male farmers, but since they have access to fewer resources, they produce less, which hinders greater economic and social goals (FAO, 2011). Even so, governments, donors, and development practitioners are not committed to gender equality and agricultural policy documents do not consider how men and women face different constraints when it comes to resource availability (FAO, 2011). This may be due, in part, to male bias in agriculture surveys, as the male head of the household often completes the surveys and female farmers’ experiences are overlooked (Deere, Alvarado, and Twyman, 2012). Thus, these decision-makers need compelling research that demonstrates the challenges that women face so that they are able to make well-informed gender-aware decisions about the agriculture sector (FAO, 2010-2011).

Micro finance as a Viable Productive Resource for Women: Micro finance was developed in the 1970s in Bangladesh, when Muhammad Yunus, an economics professor at the University of Chittagong, began offering credit to the rural poor in the aftermath of the country's war of independence (Weiss and Montgomery, 2005). This experiment grew into the Grameen Bank (Weiss and Montgomery, 2005), which provides credit only to the poor and today has over 7.5 million borrowers, 65% of whom have lifted themselves out of extreme poverty (Grameen Bank, 2015). In Latin America, micro finance developed in the early 1980s in Bolivia as a response to high rates of urban unemployment following the collapse of a populist regime in the country (Weiss and Montgomery, 2005). Since the late-1980s, the micro finance industry has greatly expanded the outreach of the financial system to millions of households (e.g. the number of micro finance borrowers increased between 2001 and 2006 from 1.8 million to 6 million) (Navajas and Tejerina, 2006). Evidence has shown micro lending to be a profitable activity, and it has caught the attention of traditional providers of financial services such as commercial banks (Navajas and Tejerina, 2006). But, despite the expanded outreach of micro finance, appropriate financial services are still scarce for the 67 million households in Latin America and the Caribbean that rely on income from microenterprises (Navajas and Tejerina, 2006).

Similar Research Studies Conducted in Latin America and the Caribbean: Although similar research is limited, it would be helpful to review two related studies conducted in Latin America and the Caribbean, noting their main takeaways.

1. "Identifying women farmers: Informal gender norms as institutional barriers to recognizing women's contributions to agriculture" (Twyman, et al., 2015): In this study, Twyman, et al. acknowledge that data collected from women about their contributions to agriculture are extremely limited due to social norms in both farming communities and

research organizations. They conclude that it is difficult to obtain data from female farmers because research organizations' survey filter questions used to identify research study participants often request that the principal farmer/land holder/most knowledgeable person/primary decision maker respond to the survey, and that, typically, female farmers, researchers, field staff and community leaders believe that the household male, rather than the female, fits these roles. As a result, women are not selected to be interviewed. However, the data collected from the males who are surveyed often indicate that women do make significant contributions to agriculture. Thus, it can be concluded that while women possess experience and a unique perspective about their agricultural contributions and experiences, since they are typically not selected as research study participants, their data has not been fully captured.

2. "Microcredit and Micro and Small Enterprise Development in Belize, Central America: A Qualitative Study of the Small Farmers and Business Bank, Ltd." (Pisani and Yoskowitz, 2004). In this study, Pisani and Yoskowitz conducted qualitative, in-depth, semi-structured interviews with 15 Belizean Small Farmers and Business Bank (SFBB) micro and small enterprise borrowers to assess the impact of the bank.

As of 2001, SFBB, a government sponsored organization, had distributed \$7.3 million in loans, with an average loan size of \$3,665 USD. Seventy-six percent (76%) of loans were made to male borrowers and 24% to female borrowers. Only 6% were distributed in the Toledo District (the geographic focus of this study). SFBB borrowers are required to complete a four-page application and submit it at the SFBB office in Belmopan, the capital of Belize (a four hour bus ride from Punta Gorda, the largest village in the Toledo District). Some collateral is required from borrowers, although not

as much as is typically required by a traditional lending institution, and interest rates are around 10%, which is below the traditional lending institution rates. The default rate is approximately 21%.

Despite the name of the bank, Small *Farmers* and Business Bank, none of the 15 participants was a farmer, and only one participant's enterprise was related to agriculture (fruit preservation). Of the participants, 10 were male and five were female; they ranged in age from 32 to 56 years old; most were married; had between one and five children; were Creole, Mestizo, Garifuna, and Ketchi Indian; and most spoke English. None of them was located in the Toledo District.

The study revealed that while the SFBB offers low interest rates, it does not strive to serve the marginalized populations of Belize. It never sends its loan officers into the field to attract low-income borrowers. The average borrower's income of \$6,731 USD is well above the annual per capital income of roughly \$3,000. Many of the participants had pursued loans from traditional lending institutions and decided to explore SFBB loans because of their low interest rates. In this way, SFBB is not providing a solution for the poor, but rather competing with traditional banks for business from middle-income entrepreneurs.

Belize: People and Agriculture: Before moving to the *Methodology* section, it is important to provide a description of the Belizean population and agriculture industry.

People: All statistics and information presented in this section are taken from The Statistical Institute of Belize's "Belize Population and Housing Census Country Report 2010." As of 2010, Belize had a population of 324,528 (approximately half male and half female), of whom 30,785 (approximately 9%) live in the Toledo District. Unlike the majority of countries in

Central America and the Caribbean, more than half (54%) of Belize's population live in rural areas. In the Toledo District, there are 4,693 households with an average of 4.9 persons per household, the highest average throughout Belize. In terms of ethnicity, throughout Belize, more than half of the population (52.9%) identifies as Mestizo/Spanish/Latino; 26% as Creole; 11.3% as Maya; and 6.1% as Garifuna (the Maya and Garifuna ethnic groups are considered indigenous). In the Toledo District, 66.5% identify as Maya; 19.9% as Mestizo/Spanish/Latino; and 6.1% as Garifuna. In terms of language, throughout Belize, 62.9% of the population speaks English; 56.6% speaks Spanish; and 44.6% speaks Creole. In the Toledo District, 68.4% speaks Maya; 47.9% speaks English; 47.2% speaks Creole; 28.2% speaks Spanish, and 3.0% speaks Garifuna.

In Belize, youth are required by law to attend school until they complete primary school or until age 14. However, throughout the country, approximately one-quarter of youth ages 13-16 do not attend school. In the Toledo District, 10.7% of children between the ages 5-13 are not enrolled in primary school and 30.8% of the population age 14 and over has not completed primary education and is considered illiterate. Only one-third of Kekchi Mayas age 15 and over have completed at least seven years of primary education, and both Kekchi and Mopan Maya women have a lower literacy rate than Maya men (exact rates are not reported).

In the Toledo District, households, sanitary facilities and utilities are poor and in need of improvement: 61.7% of homes are constructed of wood (no concrete); 29.1% of roofs are made of thatch roofing material; 23.8% of floors are made of Earth/sand; 43.6% of households reported that their homes were in need of major repairs or irreparable; 19.8% of households' main cooking facility is outdoors; 4.6% of households have no cooking facility at all; 51.2% use wood or charcoal as main type of fuel for cooking; 32.4% lack piped water; 35.6% of

households' bathing facility is outdoors; 40.9% have no bathing facility at all; 56.8% of households use a pit latrine; 14.8% have no toilet at all; and 51.7% of households burn their garbage.

Agriculture: According to the Food and Agriculture Organization of the United Nations, Belize's Gross Domestic Product (GDP) in 2011 was \$448 million, with agriculture contributing 12% (FAO, 2015). Forty-three percent (43%) of the total population (approximately 143,000 people) contribute to economic activity (FAO, 2015). Of those, 23% (approximately 33,000 people) contribute to the agriculture sector, of whom 3% are female (FAO, 2015). Total agricultural production includes farming, forests and fisheries (FAO, 2015). Primary exports, including citrus, sugar and banana, are produced commercially in the northern part of the country, and in Southern Belize, including the Toledo District, farmers produce rice, maize and beans for domestic consumption (FAO, 2015).

METHODOLOGY

Overview: Qualitative research is a widely-accepted, legitimate approach to scientific inquiry, which relies on an inductive reasoning process. According to Creswell, “Qualitative researchers build their patterns, categories, and themes from the bottom up by organizing data into increasingly more abstract units of information” (Creswell, 2014, p. 186). In qualitative research, it is common for the researcher to collect data in the natural setting (e.g. a field site) where the participants experience the research problem. The data collection is often extensive and emergent in that the initial research design and questions may be altered if the data collection leads the researcher in a different direction. The researcher is a key instrument in the study, collecting data herself, and reflecting on how her personal background and experiences may affect her interpretations of the study. The overall goal of qualitative research is to understand the participants’ meanings of the research questions, which often results in a complex, holistic picture of the problem that acknowledges multiple perspectives.

Design Type: This qualitative research study employed the phenomenological design of inquiry, which originated in the fields of philosophy and psychology. It is based on phenomenology, or “the study of structures of consciousness as experienced from the first-person point of view” (Standard Encyclopedia of Philosophy). This design of inquiry was appropriate for this study as it allows for the description of *lived experiences* of individuals as they relate to a particular phenomenon. This study relates the lived experiences of impoverished Belizean female farmers who have attempted to provide food and other necessities for their families and/or local communities.

Phenomenology relies on extensive, participant-led, conversational, unstructured interviews that use broad open-ended questions to engage the participant about his or her lived

experiences with the phenomenon. There are many benefits to using phenomenology. First, given its unstructured approach, it helps to build trust between the researcher and participants, promoting openness and authenticity. Second, given its extensive, participant-led, conversational interview style, the participants have ample opportunity for introspection, deep thought and analysis regarding their lived experiences with the phenomenon, allowing the participant to go beyond the surface level and identify deep personal meanings of the phenomenon. For both of these reasons, it works particularly well when conducting research in other cultures. Lastly, phenomenology is shown to be beneficial to health and well-being, as it may be the first time



Figure 1: En route to Punta Gorda from Belize City

another person has expressed interest in or concern about the participant's lived experiences with the phenomenon. The participant may experience catharsis, self-awareness, healing and empowerment (Thomas and Pollio, 2004).

Participant Recruitment and Data

Collection: The setting of this study was in

Southern Belize, specifically two Maya and two Garifuna rural ethnic villages (Indian Creek (Kekchi Maya), Big Falls (Mopan Maya), Barranco (Garifuna), and St. Vincent Block (Garifuna)) in the Toldeo District, the country's largest agricultural region where poverty is most widespread and severe. The setting was chosen because, in terms of culture and income level, this region is representative of many impoverished regions of Latin America and the Caribbean, but unlike many other regions, in Belize, English is widely-spoken as a second language, which reduced the need for interpreters during data collection. *Figures 3 and 4* on pages 27 and 28

depict the locations of the four villages within Central America, Belize, and the Toledo Region, and in relation to Punta Gorda, the largest town in the Toledo District with a population of approximately 5,000 people.



Figure 2: View of Punta Gorda

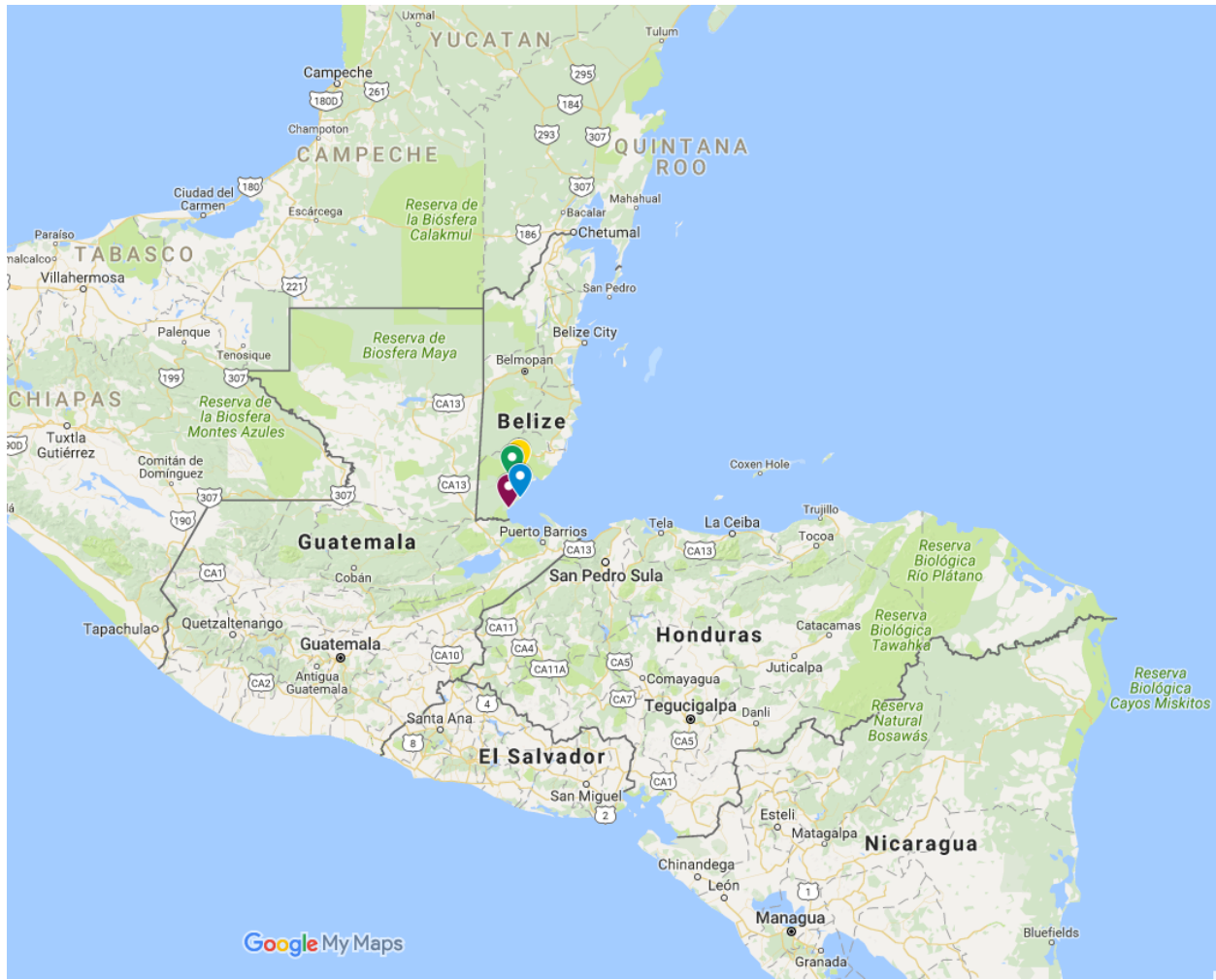


Figure 3: Map of Central America with Research Study Villages Pinpointed

Yellow pinpoint: Indian Creek Village

Green pinpoint: Big Falls Village

Blue pinpoint: Punta Gorda (St. Vincent Block is located within Punta Gorda.)

Maroon pinpoint: Barranco Village

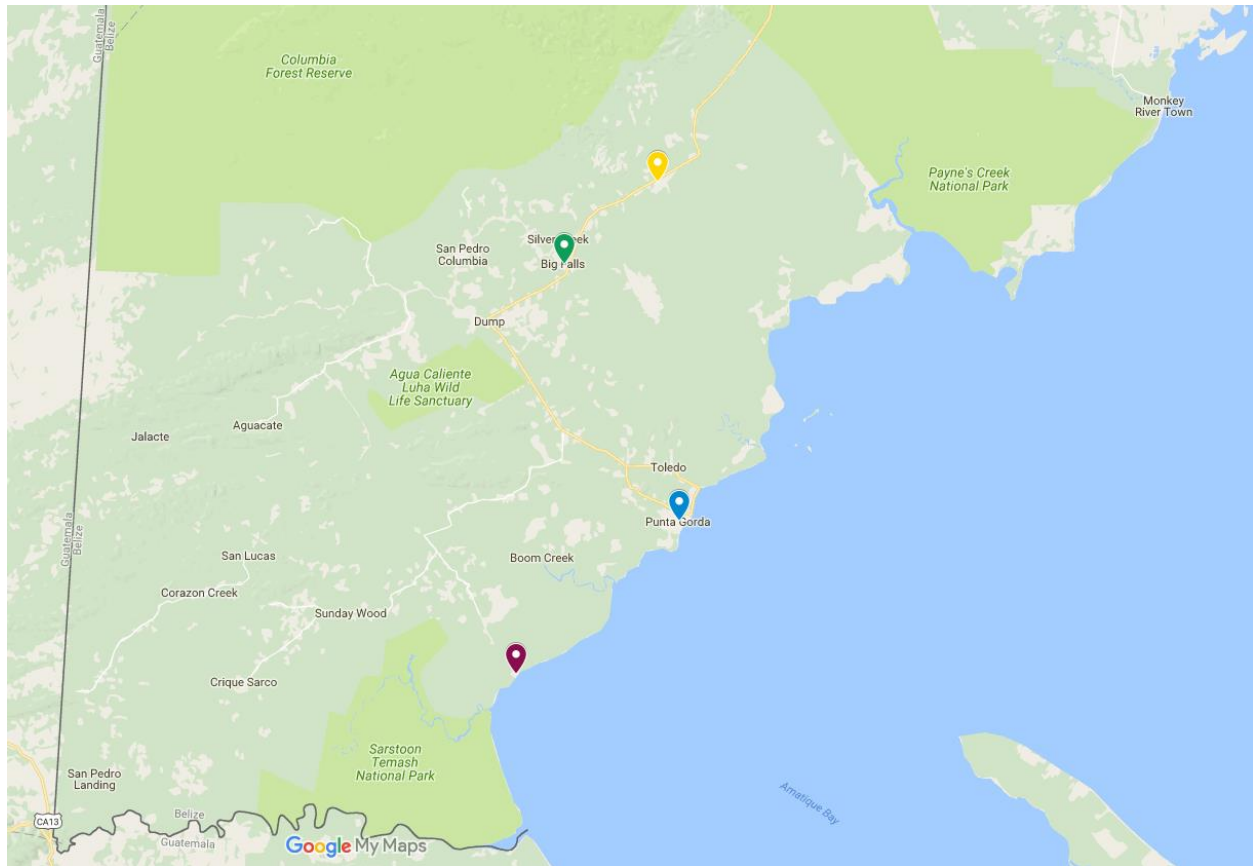


Figure 4: Map of Toledo District with Research Study Villages Pinpointed

Yellow pinpoint: Indian Creek Village (41 km/25 miles from Punta Gorda)

Green pinpoint: Big Falls Village (32 km/20 miles from Punta Gorda)

Blue pinpoint: Punta Gorda (St. Vincent Block is located within Punta Gorda.)

Maroon pinpoint: Barranco Village (approximately 40 km/25 miles from Punta Gorda)

The subjects were purposefully selected and defined as adult (i.e. 18 years of age and older), female, Belizean, impoverished¹, English-speaking farmers providing food for their families and/or selling food to their local communities and/or elsewhere. A minimal screening process (e.g. a short interview consisting of three closed-ended questions) was used to identify eight participants. The three closed-ended questions included: 1.) Do you farm to provide food for yourself/family and/or to sell to your local community or elsewhere? (Yes/No) 2.) Is your family's annual income approximately \$3,400 or less and/or is your family's food expenditure as a percentage of total household spending approximately 50% or more? (Yes/No) 3.) Do you want to participate in this research study?

(Yes/No) Following this screening process, formal consent from the selected participants was obtained before beginning the interview.

To gain access to the research study's settings and subjects, Dr. Deborah McMillan, a Belizean native and Director of Operations



Figure 5: University of Belize Toledo Campus

of the Intensive English Institute at Ball State University, provided assistance. Dr. McMillan facilitated an introduction to Mr. Roy Polonio, Campus Administrator at University of Belize, Toledo Campus, who coordinated all research study logistics, including using word of mouth to identify prospective participants, arranging participant screening and interview schedules, and organizing and providing transportation to the local villages.

¹ Reports that her family's annual income is approximately \$3,400 or less and/or that her family's food expenditure as a percentage of total household spending is approximately 50% or more. (Government of Belize and the Caribbean Development Bank, p. 52).



Figure 6: Barranco Village

The data collection period took place over the course of one week, January 15-20, 2017. During this time, I stayed in Punta Gorda and made day trips to Indian Creek Village, Big Falls Village, Barranco Village, and St. Vincent Block, a Garifuna community located on the outskirts of Punta Gorda, to interview participants. Each interview was recorded using a digital voice recorder and then transcribed after returning to the United States.

Primary data collection methods included phenomenological unstructured interviews with

the selected participants. The main interview question was: “I am here to learn about female farmers’ experiences in producing food for their families and/or communities. Can you tell me about your experience as a female farmer?” As discussed briefly below and again in more detail in the *Results* section, when relying solely on the phenomenological design of inquiry and the main research question, challenges were encountered when attempting to obtain data. Thus, in order to ensure that adequate data were obtained, the study was adapted slightly beginning with the first participant by referencing a pre-developed semi-structured



Figure 7: An Interview Site (A Participant's Home)

interview guide (see *Appendix A*) for the purpose of stimulating conversation and encouraging dialogue.

Data Analysis Procedures: Data analysis was conducted following the data collection period, from approximately late-January through March 2017. Analysis procedures for this research study were *issue-focused*, meaning the goal was to present findings that “describe[d] what [had] been learned from all respondents about people in their situation” (Weiss, 1994). Following interview transcription, data analysis procedure components included coding, sorting, local integration, and inclusive integration (Weiss, 1994). A summary of the process follows.

To begin, interview transcripts were closely examined and main concepts and supporting statements were pulled from them in an effort to simply capture the interview material. Then, those main concepts were coded into various categories, e.g. “drought plagues the farm”; “female farmer lack business aptitude to sell crops”; “family struggles to pay children’s educational fees”; etc. Next, “excerpt files,” or “collections from many interviews of excerpts dealing with the same issue” were created (Weiss, 1994). As this extensive process was carried out, three broad categories began to naturally emerge by which the findings and themes are now organized. As the main concepts and supporting statements were sorted into these final major theme categories, sub-categories became evident, and so the main concepts and supporting statements were further sorted into sub-themes, for a total of nine sub-themes, which will also be introduced in the *Results* section. In this way, coding, sorting and interaction with the data, in general, helped to develop the final categories presented in the *Results* section.

After each main concept was sorted into its major theme and sub-theme category, the organization and eventual presentation of the findings began to take shape. The next step was local integration, or summarizing the excerpt files for each sub-theme and formulating

“minitheories” (Weiss, 1994). This data analysis step was a pivotal point during which meaning of the data was introduced, supported by paraphrased transcript excerpts. (The explanation for paraphrasing is below.) As is presented in the *Results* section, local integration calls for the presentation of themes as well as variants.

Inclusive integration was the final data analysis step; it “knits into a single coherent story the otherwise isolated areas of analysis that result from local integration” (Weiss, 1994). Inclusive integration helped develop the overall structure and organization of this thesis as well as how the identified themes and sub-themes affect one another. As presented in the *Implications and Discussion* section, the final products of this research study include a conceptual framework that can be evaluated for accuracy and precision in later research and a list of recommendations for a number of potential stakeholders, including the national Belizean government, policy and research institutions, international development agencies, and traditional and/or micro finance institutions, among others.

Validity Concerns: According to Creswell, “Validity is one of the strengths of qualitative research...” (Creswell, 2014, p. 201). For this study, two validity safeguards were used: 1.) *triangulation* (i.e. assessing where the different data sources (e.g. the literature; country background and demographic information; conversations with participants’ relatives and local Toledo residents) converge to form themes) and 2.) *rich, thick description* (i.e. providing a vivid description of the setting and subjects in an effort to put the findings into perspective for the readers). *Appendix B* provides rich, thick descriptions of each participant’s unique life story.

Researcher’s Role: As briefly discussed above, the researcher is a key instrument in qualitative studies, as these studies are inductive, and thus, interpretive. Therefore, it is important to introduce myself and explicitly identify my personal background, values and biases. I am a

Caucasian, thirty-four year old, single, middle-class woman who was born in and currently resides in the state of Indiana in the United States. I possess a Bachelor of Science degree in business and a minor in psychology and have worked as a professional for more than 12 years for corporations, non-profit organizations and an academic institution. I have traveled to more than 20 countries, including a number of developing countries, and have both professional and personal experience working with and serving impoverished people groups. I experienced, first-hand, the scenario described in this proposal's introduction, which altered the trajectory of my career and motivated me to pursue an advanced degree relating to food security. I have also made numerous micro loans to agricultural entrepreneurs, mainly females, throughout Latin America via Kiva.org, a crowd-funded, micro financial service that facilitates loans between comparatively wealthy and impoverished individuals (none of my seven borrowers defaulted).

Prior to conducting the primary research, I acknowledged that my life experience may influence my interpretations of the participants' meanings of the research questions. I, therefore, made a concerted effort to identify and dispense of any bias prior to the start of the research study. In order to identify my biases, my advisor conducted a recorded "bracketing interview" with me, which is discussed below.

Bracketing Interview: During the bracketing interview, I reflected on my experience as a female, in general; discussed my relation to poverty; and anticipated what I might hear and observe while conducting research in Belize. As a result, I was able to identify one major and complex personal bias: Girls and women are marginalized, especially by male authority figures.

As a young girl and teenager, I observed my dominant father's voice was louder – literally and figuratively – than my submissive mother's voice. As I grew up, at times, my voice

was muted. This trend of male dominance and female submission was prevalent throughout my extended family, as well.

While my family may be responsible for introducing this bias, the professional workplace has reinforced it. Throughout my career, I have observed that, in the workplace, when compared to women, men command more respect; speak and interrupt more often; and are promoted more quickly – even when they possess the same or lesser credentials than their female counterparts.

This bias certainly influenced what I anticipated to hear and observe while conducting research in Belize. I anticipated that the female farmer participants, to some degree, may be treated unfairly and marginalized by men (e.g. husbands, fathers, brothers, other family members, community members, etc.) and by those in power (e.g. the federal government's program administrators, local community leaders, traditional banks, development agencies, etc.). Identifying this bias, being aware of it, and reflecting on it prior to embarking on the research study helped me to remain objective during each interview.

Besides allowing for the identification of biases, the bracketing interview also helped to prepare me for travel to the research setting. As I reflected on my experience with poverty, I remembered how I am deeply emotionally affected when observing extreme poverty. The interview served as a reminder to begin preparing emotionally for the research study.

Methodology Challenges: Conducting a phenomenological research study requires that participants are willing to devote their time to the study and able to divulge personal information about their lived experience. Some challenges were encountered with the latter. While phenomenology's unstructured interview style is intended to help put the participant at ease, it seemed to have the opposite effect on the participants of this research study.

While the eight participants seemed willing to divulge personal information about their lived experiences, they struggled to respond to the initial open-ended question: “I am here to learn about female farmers’ experiences in producing food for their families and/or communities. Can you tell me about your experience as a female farmer?” Several of them, at first, did not respond at all. They looked for additional instruction and then averted their eyes when they realized there was no further instruction. Their nonverbal communication (e.g. darting eyes, shrugging shoulders, nervous laughter, etc.), indicated discomfort and uneasiness. Other participants, at first, responded with only a few words or one short sentence (e.g. “I grow corn.”) but did not elaborate at all, even when provided time for reflection and translation of their thoughts into verbal descriptions. These challenges to obtain data resulted in a slight alteration of the study. Beginning with the first participant, the semi-structured interview guide was periodically referenced for the purpose of stimulating conversation and encouraging dialogue. If and when the participant began to lead and direct the conversation, then the phenomenological interview style would be resumed. These challenges are mentioned again in the *Results* section.

In addition, while the participants spoke English, they often spoke a dialect that was, at times, slightly difficult to understand. Their nonverbal cues along with follow-up questions and responses provided clarity if the meanings of their statement were not immediately understood. But, during interview transcription and data analysis, it was immediately evident that their spoken word was much more easily understood during the face-to-face interviews than when listening to the recorded interview or reading a transcript excerpt verbatim. Therefore, in an effort to provide easily-comprehensible and meaningful data for the reader, the transcript excerpts included in the *Results* section have been paraphrased.

Additional Information: To ensure the protection and welfare of the participants, prior to the start of the study, the Institutional Review Board process was completed through Ball State University's Office of Research Integrity. To protect their identities, the participants were each assigned a pseudonym. Each participant received \$30 BZD/\$15 USD (approximately 0.8% her family's annual income) to participate in the study. Prior to the research study, there had not been any interaction with the participants.



Figure 8: Barranco Village Dock, Looking South toward Guatemala

RESULTS

Overview: This section is the culmination of the primary research experience and in-depth data analysis procedures. It outlines what the research revealed – the findings – and their meanings. To begin, it introduces each of the eight participants, providing some basic demographic information about them and a glimpse into each of their lives (*Appendix B* provides each participant's full length story). Then, it offers some initial observations and a broad overview of the identified major themes. Finally, it explores the meanings of each of the nine sub-themes, which are supported by in-text paraphrased transcript excerpts (*Appendix C* provides a full listing of paraphrased excerpts). This section sets the stage for the *Implications and Discussion* section which directly follows.

Participant Introductions: *Table 1* on page 38 provides some basic demographic information about each participant. Five women are Maya (three Kekchi Maya; two Mopan Maya) and three are Garifuna. They live in four villages in the Toledo District (maps were presented in the *Methodology* section): Indian Creek Village; Big Falls Village; Barranco Village; and St. Vincent Block, which is a Garifuna section of Punta Gorda. The participants range in age from 28-64 years old and their respective farming experience ranges from 5-60 years. Four are married; one is married by common law; one is widowed; one is in a domestic partnership with her boyfriend; and one is single. The number of children per participant ranges from zero to ten.

Table 1: Basic Participant Demographic Information

Assigned Pseudonym	Ethnicity	Local Village	Age (Years Farming)	Relationship Status	# of Children
Teresa	Kekchi Maya	Indian Creek	43 (24)	Married	10
Dolores	Kekchi Maya	Indian Creek	56 (16)	Married	6
Magdalena	Kekchi Maya	Indian Creek	35 (9)	Married (common law)	5
Juana	Mopan Maya	Big Falls	60 (60)	Married	10
Santa	Mopan Maya	Big Falls	28 (5-6)	In a relationship	0
Areini	Garifuna	Barranco	51 (15)	Married	5
Darina	Garifuna	Barranco	64 (56)	Widowed	4
Iseri	Garifuna	St. Vincent Block	31 (31)	Single	0

The introductions below provide a glimpse into each of the participant's lives. *Appendix B* provides each participant's full length story.

- Teresa: Teresa lives with her husband, 10 children, and extended family in Indian Creek Village. She and her husband began farming 24 years ago out of financial desperation. They were living in poverty, neither was educated, and neither was working, and thus, they made the decision to become farmers. They farm a total of three acres – two acres of corn and one acre of produce. Teresa's husband is a prominent man in Indian Creek, yet they continue to struggle financially.
- Dolores: Dolores lives with her husband, six children, and extended family in Indian Creek Village. She and her husband farm a total of 29 acres. Besides produce, she and her family make and sell value-added products, such as homemade baskets and potholders, out of 'jippi jappa' palm leaves.

- Magdalena: Magdalena lives with her common law husband and five children in Indian Creek Village. They primarily grow corn on 25 acres of land and also grow produce in the fields adjacent to their home. Magdalena really enjoys farming; she believes that it gives her energy, prevents her from becoming sick, and has made her stronger.
- Juana: Juana began farming as soon as she was able to walk and has been farming ever since then. Her father taught her to farm when she was a very young girl, and as an adult, she has farmed with her husband and 10 children in Big Falls Village. They farm approximately three acres of land. Juana values generosity tremendously and loves to share food with others.
- Santa: Santa's father taught her how to farm when she was a young child, but she did not share responsibility for farming a piece of land until she became a young adult. Santa now lives with her boyfriend of 12 years in Big Falls Village and farms one acre of beans with him in Santa Elena, her childhood village, which is one hour away by bus. They do not have any children.
- Areini: Areini's mother taught her how to farm when she was a child, but she has only been farming with her husband for the last 15 years. Currently, they farm two acres of land, which is a ten minute walk from their home in Barranco Village, and they hope to purchase a third acre soon. They have five adult children. Areini believes that farming has been a good experience because it has allowed her to provide for her family, and she would encourage any woman to be a farmer.
- Darina: Darina's grandmother taught her how to farm when she was a young girl, and she has been farming since then. She farmed with her late husband while he was alive, but after he died 20 years ago, the way she farmed changed drastically. She owns 25 acres of

land, located about two and a half miles from her home in Barranco Village, but does not utilize it much anymore. In the past, she grew produce and baked and sold bread. She has four adult children.

- Iseri: Iseri is a single woman living with epilepsy in St. Vincent Block. She does not have any children. Her father taught her to farm when she was a young girl, and following his death, she decided to take responsibility for the family farm. Unlike the other participants, Iseri obtained a degree at a community college. Her father is her greatest inspiration in life and on the farm.

Initial Observations: Before exploring the major themes, it is important to note two initial observations:

1. Unless a female farmer is single (e.g. never married, widowed, etc.), she is more likely than not farming alongside her husband. The two work as a team, with the husband performing the more traditionally masculine tasks, such as cutting and clearing land and chopping the crops that require extensive physical labor such as corn, and the woman assisting with planting, tending to the crops, and harvesting as well as performing domestic tasks, such as cooking, cleaning and caring for children.
2. As mentioned briefly in the *Methodology* section above, the participants struggled, at first, to respond to the research question. They seemed to have difficulty describing their *experience* as a farmer beyond providing very basic facts about their farming responsibilities and tasks. Their initial responses to the research question were very technical in nature. Many of them began listing the crops they grow. Some demonstrated with their hands how they might ‘root out’ a yam or how a ‘wee wee ant’ might destroy a plant. Their responses were very matter-of-fact, as if, perhaps, they have not ever had the

luxury of contemplating the deeper meaning of their experience as a farmer beyond the reality of their daily farm chores. Most, if not all, of the participants shared about the technical aspects of farming, perhaps without realizing that there are a number of non-technical aspects of farming that impact their farm and quality of life.

Overview of Major Themes: While each participant's life story is unique, when compared to one another, they have a number of commonalities. The participant screening requirements, alone, ensured the demographic themes – each participant is an adult, female, Belizean, impoverished farmer. But, beyond the demographics, there are underlying themes to these female farmers' experiences. The majority of the participants relate that they are wives and mothers to numerous children (five children on average, but up to 10) who resorted to subsistence farming out of financial desperation in order to provide for their families. Most of them serve in a support role to their husbands who make the household and farming decisions. Nearly all of them lack formal education but possess farming knowledge and skills, which they acquired from their parents and/or grandparents when they were children. While they are well-equipped with farming knowledge and skills, they encounter a number of regular setbacks that challenge their food security and livelihoods.

Most have prioritized education for their children because they believe that obtaining an education will allow their children to enjoy an easier and more financially-stable lifestyle. However, they struggle to pay required educational fees, having to choose between paying these fees and purchasing food during difficult times when crop yields are poor. While focused on educational attainment, several of the participants have not yet decided which lifestyle would ultimately be better for their children – the physically-demanding subsistence lifestyle in the local village where adversities are the norm or the financially-demanding city lifestyle that

requires one to earn a substantial amount of money to pay numerous living expenses. As they consider this question, they continue to farm and pass along their farming knowledge and skills to the next generation – to their children, nieces and nephews, and grandchildren.

Many of them think that the physically-demanding subsistence farming lifestyle may be worth the effort if they were able to access lucrative markets where they could sell their agricultural products to earn enough money to pay their children's educational fees and some minor utility bills and occasionally purchase some household necessities. Unfortunately, given their low levels of education and extremely limited financial means, they struggle to reach these markets.

Many of the participants have considered expanding their farming operations, although none of them has a very firm plan in place to do so. In addition, they lack the finances required to increase their production and will not consider taking a financial loan because they fear the process of applying for one, the 'unknowns' about repayment obligations, and the risk of defaulting. To exacerbate these struggles, supportive resources do not exist for these women.

In response to the main research question, *When attempting to provide food and other necessities for their families and/or local communities, what barriers do impoverished Belizean female farmers experience?*, data analysis yielded three major theme categories: *Farming Barriers*; *Business Barriers*; and *Social Barriers*. Each theme category comprises three sub-themes. *Farming Barriers* include on-the-farm barriers such as **seasonal hardships** (e.g. drought and flood), **incessant pests**, and **lack of resources** (e.g. manpower and tools and equipment). *Business Barriers* include **lack of finances**, **lack of knowledge and/or fear about financial loans**, and **lack of access to lucrative markets**. *Social Barriers* include **lack of education**, **lack of supportive resources**, and their children's **high educational fees**. *Table 2* lists the identified

theme categories and their corresponding sub-themes. Then, each sub-theme is explored in detail, including in-text paraphrased transcript excerpts.

Table 2: Identified Major Theme Categories and Sub-themes

Major Theme Categories	Sub-themes
1. Farming Barriers	1. Seasonal hardships 2. Incessant pests 3. Lack of resources
2. Business Barriers	4. Lack of finances 5. Lack of knowledge and/or fear about financial loans 6. Lack of access to lucrative markets
3. Social Barriers	7. Lack of education 8. Lack of supportive resources 9. High educational fees

Major Theme Category 1: Farming Barriers:

Sub-theme 1: Seasonal Hardships: Seasonal hardships, including both drought and flood, are prevalent in the Toledo District of Southern Belize. *Table 3* shows which participants identified drought and/or flood as a barrier to providing food for their families and/or local communities.

Table 3: Participants Who Identified Seasonal Hardships as a Barrier

	Teresa	Dolores	Magdalena	Juana	Santa	Areini	Darina	Iseri
Drought	X	X	X					
Flood		X	X		X	X		

Both forms of weather – drought and flood – can put a strain on farmers’ ability to grow crops. All three of the participants from Indian Creek Village identified too *little* rain as a seasonal hardship. “...we have no water here. And we don’t get water. It’s kinda hard.” (*Teresa, Indiana Creek Village*).

At the same time, two of the participants from Indian Creek Village and two additional participants from two separate villages identified too *much* rain as a seasonal hardship. “But when the rains attack [the beans] they don’t grow. They spoil...” (*Santa*, Big Falls Village).

Two participants struggle with both seasonal challenges. “...the...challenge is...too much sun or too much rain...” (*Dolores*, Indian Creek Village). These seasonal hardships can greatly impact crop yields and negatively affect farmers’ food security as they are not able to produce enough food to eat. Additionally, they can negatively affect farmers’ livelihoods as they are not able to produce enough food to sell at market.

Sub-theme 2: Incessant Pests: Incessant pests also pose significant challenges. *Table 4* shows which participants identified pests as a barrier to providing food for their families and/or local communities.

Table 4: Participants Who Identified Pests as a Barrier

	Teresa	Dolores	Magdalena	Juana	Santa	Areini	Darina	Iseri
Pests				X	X	X	X	X

When they attack a farmer’s field, pests are not a mild burden, but are often relentless. “Pests are one of my greatest challenges, and currently there are many animals on my farm. I fear that when they are finished eating, there will not be any food left for me.” (*Darina*, Barranco).

Pests can drastically reduce crop yields, and attempting to ward them off can require significant financial and human resources.

When I select and prepare a plot of land for farming, I ensure that the plot is large enough to grow enough food for my family as well as for the animals, birds and worms that will inevitably eat from it. (Juana, Big Falls Village)

Lastly, while not entirely effective, farmers opt to try to fight against pests with chemicals, which ultimately end up in their fields and on their crops. “A major part of my role as a female farmer is to watch for pests and spray chemicals to ward them off.” (*Santa*, Big Falls Village). Like seasonal challenges, incessant pests are negatively affecting farmers’ food security and livelihoods.

Sub-theme 3: Lack of Resources: Finally, a lack of resources, including manpower and tools and equipment, poses challenges. *Table 5* shows which participants identified a lack of resources as a barrier to providing food for their families and/or local communities.

Table 5: Participants Who Identified a Lack of Resources as a Barrier

	Teresa	Dolores	Magdalena	Juana	Santa	Areini	Darina	Iseri
Manpower	X	X			X		X	X
Tools and equipment	X	X	X	X			X	X

Manpower: Manpower refers to the human resources that are required to complete farming tasks, including cutting and clearing new land; planting; tending the fields; and harvesting crops. Several of the participants related that they do not have sufficient manpower to complete these tasks, but their meanings behind their statements were nuanced.

Several participants, the single women, in particular, do not believe they possess the physical strength to accomplish certain farm tasks and believe they could benefit from additional manpower. “As a woman, I am not physically-capable of cutting new pieces of land or doing the ‘slash and burn.’” (*Darina*, Barranco Village).

A lack of manpower is not only a challenge for the single women, however, but also a challenge for the female farmers who farm alongside their husbands. Lacking manpower can prevent them from increasing the size of their farm and producing more food for their families and communities. “My husband and I often consider increasing the size of our farm, but...we would need to hire farm workers.” (*Santa*, Big Falls Village).

Besides the physical strength that additional manpower provides, some of the participants also depend on the emotional companionship of other women while farming.

Years ago, many women in the community would walk to the farms together and work as teammates, supporting one another. While completing our farm work, we would talk and sing and provide encouragement for one another. Often times, I worked harder and longer hours because I did not want to disappoint the other women. Unfortunately, now many of them have passed away or are aging and no longer able to farm. I miss farming alongside these women.
(*Darina*, Barranco Village)

Unlike most participants, Magdalena related that she, her husband and children are capable of performing all required farm tasks and would not benefit from additional farm workers. Yet, for the majority of participants who do lack manpower, it can inhibit farmers from cutting and clearing new plots of land; prevent them from expanding the size of their current fields; and even decrease their efficiencies and productivity while completing their farming tasks. Thus, a lack of manpower is negatively affecting farmers’ food security and livelihoods.

Tools and Equipment: Without proper tools and equipment, farmers struggle to efficiently complete farm tasks, which can result in reduced crop yields. Six of the participants related that they lack the tools and equipment they need. “Some people in my community have received tools to support their larger projects, but unfortunately, I have not been lucky enough to be part of those projects.” (*Darina*, Barranco Village).

However, a notable variant existed. Juana indicated she has never lacked tools because she learned to make them from natural materials when she was a young child, and thus, never

needed the financial resources to purchase them. Nevertheless, most farmers do not possess these valuable skills, and, for them, a lack of tools and equipment negatively affects their food security and livelihoods.

Major Theme Category 2: Business Barriers:

Sub-theme 4: Lack of Finances: Lack of finances is a significant challenge. As *Table 6* indicates, all participants, if only through the participant screening process, identified lack of finances as a barrier to providing food for their families and/or local communities. Also of note, four of the six married participants indicate that their husbands make the primary decisions about their family finances and/or their farms.

Table 6: Participants Who Identified Lack of Finances as a Barrier and Reported Husband as Primary Decision Maker

	Teresa	Dolores	Magdalena	Juana	Santa	Areini	Darina	Iseri
Lack of finances	X	X	X	X	X	X	X	X
Husband makes family finance decisions	X		X	X				
Husband makes farming decisions		X		X				

Note: Darina is widowed and Iseri is single.

As mentioned earlier in this section, most of the participants became farmers because they were living in poverty and had no means of earning income to purchase food and other necessities. They became farmers out of financial desperation, and all of them continue to struggle financially.

My husband and I began farming years ago because neither of us was working and had no means of earning income. We are both uneducated and did not have many employment options. We have worked hard at farming and been moderately successful, but we still struggle financially. (Teresa, Indian Creek Village)

A lack of finances stands in the way of implementing solutions to the Farming Barriers – seasonal hardships, incessant pests, and lack of resources – outlined above. When a farmer lacks

finances, she is not able to irrigate her fields during a drought; to build up the creek wall to avoid her fields flooding; to construct a fence to keep pests off of her farm; to pay additional farm workers; or to purchase necessary tools and equipment.

Farming is very difficult but not very financially lucrative. One of my greatest challenges is making enough money to keep up with the demands of the farm. For example, right now, I do not have enough money to pay a man to clear new pieces of land for me. I do not even make enough money to support myself. (Darina, Barranco Village)

Iseri's perspective about farming is contrary to most of the participants' perspectives. Throughout her interview, she repeated the phrase '*Farming is hard work, but it pays,*' a motto her father believed and lived by when he was alive. Although she believes this motto, it has not been practically realized for her yet. As with each of the Farming Barriers above, a lack of finances also negatively affects farmers' food security and livelihoods.

It is worth mentioning that four of the six married participants indicate that their husbands are the primary decision makers about their family finances and/or their farms; however, only one participant identified this arrangement as a point of contention for the family.

My husband and I struggle financially, especially when the corn yield is poor. In these times, I think we should use our money to purchase flour or rice for the family to eat, but my husband, who makes decisions about our family finances, insists that we prioritize our children's educational fees. (Magdalena, Indian Creek Village)

Magdalena seems to prioritize food security for the family in the present, while her husband prioritizes their children's education today in order to ensure a better future for them tomorrow. Besides this instance, while male decision making is prevalent in some families, it was not identified as a barrier in this study.

Sub-theme 5: Lack of Knowledge and Fear about Applying for Financial Loans:

Exacerbating the participants' lack of finances barrier is their lack of knowledge and fear about

applying for financial loans. *Table 7* shows that all participants identified a lack of knowledge and/or fear about applying for financial loans as a barrier to providing food for their families and/or local communities.

Table 7: Participants Who Identified a Lack of Knowledge and/or Fear about Applying for Financial Loans as a Barrier

	Teresa	Dolores	Magdalena	Juana	Santa	Areini	Darina	Iseri
Lack of Knowledge and/or Fear	X	X	X	X	X	X	X	X

As discussed above, if farmers had the financial means, they may be able to implement solutions to their Farming Barriers. Although they lack finances, financial loans, and micro loans, in particular, may be able to serve as a full or partial solution to their financial struggles. Unfortunately, however, the participants lack knowledge and/or are fearful about applying for financial loans.

Some of them have considered applying for a loan but are not familiar with the process or arrangement. “My husband and I have considered applying for a financial loan so that we could expand our farm and produce more crops, but we do not know where to go to apply.” (*Dolores*, Indian Creek Village). “I don’t know how much money I would be required to pay or when the money would be due to the lender.” (*Teresa*, Indian Creek Village).

Whereas others are terrified of defaulting on the loan and the potential resulting repercussions.

I would have to think very hard about applying for a financial loan. I would not want to be repaying the loan, and sometimes people who take loans are still repaying them 10 or 15 years later. Ultimately, if you do not repay the loan, the lender will repossess your land. (*Areini*, Barranco Village).

This lack of knowledge and/or fear about applying for financial loans keeps farmers trapped in the cycle of poverty and, ultimately, negatively affects their food security and livelihoods.

Sub-theme 6: Lack of Access to Lucrative Markets: Lack of access to lucrative markets poses additional financial challenges. *Table 8* shows which participants – all but one – identified a lack of access to lucrative markets as a barrier to providing food for their families and/or local communities.

Table 8: Participants Who Identified a Lack of Access to Lucrative Markets as a Barrier

	Teresa	Dolores	Magdalena	Juana	Santa	Areini	Darina	Iseri
Lack of Access to Lucrative Markets	X	X	X	X	X	X	X	

Despite the participants’ struggles with seasonal hardships, incessant pests, lack of resources, and financial challenges, they are determined to utilize their assets to maximize their crop yields. But, enduring and/or overcoming the Farming Barriers and celebrating a bountiful harvest is only half the battle for farmers. While a strong crop yield may provide a farmer’s family with some food to eat, the farmer still must be able to sell a portion of her product in order to earn income to supplement her family’s harvest with different foods to ensure nutritional variety; pay for her children’s high educational fees; pay utility bills (e.g. water, electricity); purchase household necessities; or perhaps reinvest in the farm (e.g. seeds, tools, manpower, etc.).

But, often there are not enough customers in the local villages to earn needed income, and most of the farmers do not have the financial means to travel to far-off lucrative markets to sell their products.

I sell some product in my village and the neighboring villages, and occasionally, when I have a lot of product to sell, I will travel to Punta Gorda by bus to sell them at the market. Even so, I struggle to make enough money to support my family. (Teresa, Indian Creek Village).

Santa and her boyfriend are the exception; they travel a great distance to reach a more lucrative market, although the trip is very difficult. “My boyfriend and I travel to Guatemala to sell our beans and corn. The roads are not always reliable. To make the journey, we travel by bus and then by horse.” (*Santa*, Big Falls Village).

Dolores’ target market is tourists, but she competes with her neighbors to sell her value-added product and struggles to make a profit.

Tourists, who visit my village, like my products – baskets and potholders made from ‘jippy jappa’ palm leaves –, but I face a lot of competition from my neighbors who make and sell the same products. ... I believe my family could sell more products if we had access to new markets. I would like to sell my products to a middleman who is able to reach more lucrative markets by distributing and selling them in far-away locations. Could you help my family export baskets and potholders to the United States? (Dolores, Indian Creek Village)

Iseri is the outlier. She, based in St. Vincent Block on the outskirts of Punta Gorda, experiences high customer demand for her products. As people pass by her farm, they stop to purchase her live chickens, cilantro and produce. Iseri’s mother also operates a social media page that directs customers to her farm. This customer demand is very much the exception; the vast majority of the farmers struggle to identify lucrative markets, which negatively affects their food security and livelihoods.

Major Theme Category 3: Social Barriers:

Sub-theme 7: Lack of Education: As *Table 9* indicates, all participants identified a lack of education, whether general or topic-specific, as a barrier to providing food for their families and/or local communities.

Table 9: Participants Who Identified a Lack of Education as a Barrier

	Teresa	Dolores	Magdalena	Juana	Santa	Areini	Darina	Iseri
Lack of Education	X	X	X	X	X	X	X	X

Lack of education, in part, is why the majority of the participants became subsistence farmers. Most of them were raised without a formal education and, as a result, had few employment opportunities. Some of the participants do not read very well and are not able to learn their rights.

When a farmer is unaware of her rights, she may not attempt to purchase or lease land or expand her farm, for example. “When people are illiterate, they often do not know how to do these things.” (*Dolores*, Indian Creek Village). “I do not think it would be legal for me to purchase land without my husband because I am a woman.” (*Areini*, Barranco Village).

While most of the participants learned to farm when they were children, Magdalena is the exception.

I never received education or training relating to farming, so I have used ‘trial and error’ to teach myself how to farm and sell products. When something I try does not work, I try something different until I get the desired result. (Magdalena, Indian Creek Village)

Using trial and error can be very inefficient and is not a good use of a farmer’s time and resources (e.g. seeds and other farming inputs), especially when the knowledge and skills to be productive already exist and are known among others.

Still others struggle with the business side of farming, not knowing how to increase their product sales. “I would also like to increase my farm operation and production, but I do not have a firm plan in place to move forward and rely on my friends for business advice.” (*Iseri, St. Vincent Block*). A lack of education contributes to missed opportunities, inefficiencies, and inability to turn product into profit, all which negatively affects food security and livelihoods.

Sub-theme 8: Lack of Supportive Resources: A lack of supportive resources can make it very difficult, if not impossible, for farmers to overcome the other barriers. As *Table 10* indicates, all participants identified a lack of supportive resources as a barrier to providing food for their families and/or local communities.

Table 10: Participants Who Identified a Lack of Supportive Resources as a Barrier

	Teresa	Dolores	Magdalena	Juana	Santa	Areini	Darina	Iseri
Lack of Supportive Resources	X	X	X	X	X	X	X	X

Whether relating to financial, legal, government, or development agency support, the participants do not have access to vital resources. They lack accurate financial loan information; legal recourse when an injustice occurs; prompt and attentive government services; and effective development agency assistance.

One of my greatest setbacks occurred a few years ago when my neighbor’s cow became loose and destroyed my farm. The neighbor never offered to pay for or repair the damage. He never even apologized. He eventually sold his cow and moved. The damage is still visible. (Iseri, St. Vincent Block)

Government agencies, which are intended to facilitate lease contracts, can hinder efficiencies and productivity when not properly operated.

When I applied for land, the land department would not process my application. When they finally did process it, they did not notify me that my application had been approved. As a result, I missed my first payment. (Darina, Barranco Village)

Even when well-meaning development agencies attempt to help, they often miss the mark.

Years ago, I agreed to allow development workers to use my farm land for a project. They graded three acres of my land with bulldozers and promised to install wire to keep the pests out of my field, but they deserted the project and never returned to finish it. (Darina, Barranco Village)

A lack of information impedes farmers from applying for a financial loan to increase their production. A lack of legal recourse and non-existent farm insurance means that when an injustice occurs and results in the destruction of a farmer's crops, it is not always possible to recover. Inefficient government agencies can contribute to confusion about land leasing and other vital processes. Even development agencies designed to offer solutions to problems often create new problems. In these ways, a lack of supportive resources can negatively affect food security and livelihoods.

Sub-theme 9: High Educational Fees: Finally, high educational fees pose significant challenges. As *Table 11* indicates, with the exception of Dolores, all participants with children identify their children's high educational fees as a barrier to providing food for their families and/or local communities.

Table 11: Participants Who Identified High Educational Fees as a Barrier

	Teresa	Dolores	Magdalena	Juana	Santa	Areini	Darina	Iseri
High Educational Fees	X		X	X		X	X	

Note: Neither Santa nor Iseri has children.

With such high educational fees, farmers have almost no discretionary income to devote to implementing potential solutions to the barriers presented above or reinvest in their farms.

Magdalena related that she and her husband are forced to choose between their family consuming the food they produce and selling it in order to earn income to pay for their children's high educational fees, a decision that directly affects their family's food security.

Other participants related that the great majority of income they earn from selling their products is used to pay for their children's high educational fees, leaving them with very little discretionary income.

I have 10 children. Two of them have finished school and the remaining eight are still in school. Nearly all of the money my husband and I earn from farming is spent on school fees. We struggle to earn enough money to send them all to school. (Teresa, Indian Creek Village)

Some of the participants and their spouses have been forced to become creative about ways to increase their income, for example by producing and selling value-added products.

“When my children were young, I would bake bread and take it to Punta Gorda to sell in order to pay for their school fees.” (*Darina*, Barranco Village). High educational fees certainly impact and negatively affect food security and livelihoods.

IMPLICATIONS AND DISCUSSION

Overview: The identified *Farming Barriers*, *Business Barriers*, and *Social Barriers* presented in the *Results* section have implications for the future, on both the micro and macro levels. On the micro level, these barriers have implications for individuals and families, and on the macro level, these barriers have implications for local villages, the Toledo District, the country of Belize and Latin America and Caribbean region. This section will explore implications on the micro level and will conclude with a statement about how the implications might affect the macro level.

Seasonal hardships, such as drought and flood, lead to diminished crop yields, and as a result, individuals and families may not have enough food to eat. If they experience a partial good yield, there may be enough food to feed their families but not enough food to sell in their local or neighboring village in order to earn some money to pay school fees or purchase household necessities. In addition, when seasonal hardships impact crop yields, farmers may not be able to save enough seed for the next growing season. Thus, the seasonal challenges of the current growing season may have negative implications on future growing seasons. But, even in times of catastrophe, the Caribbean agriculture sector does not have access to market-based agricultural insurance, and farmers must rely on their own resources, financial support provided by the government, and/or support from international donors (World Bank, 2012). Most of the costs end up being absorbed by individual farmers and/or governments (World Bank, 2012).

According to Santa, these challenges affect her outlook on the future, causing discouragement and feelings of hopelessness that can be difficult to overcome. Psychological and emotional hardships resulting from seasonal challenges have been documented in other areas of the world, as well. In Australia, for example, researchers found a statistically significant

correlation between springtime drought and rural residents' substantial loss of life satisfaction (Carroll, et. al., 2009).

Incessant pests consistently and significantly reduce farmers' crop yields. The farmers have accepted this challenge as the norm. Each season, they purposefully strive to grow enough food to support their family's needs as well as the pests' needs. They devote significant time and effort to feeding pests who reside on or visit their farms for food. Even though the farmers attempt to plant enough food, the pests often eat into the family's share of food, leaving the family with inadequate amounts food. As with seasonal challenges, individuals and families may not have enough food to eat, or they may not be left with any excess product to sell in order to earn money.

A lack of resources, such as lack of manpower or lack of tools and equipment, can reduce the potential of crop yields and also stifle any potential agricultural growth. Without additional manpower and tools and equipment, individual farmers are limited to producing only the amount of food they are physically-cable of growing themselves utilizing modest tools. While they may (or may not) be able to produce enough food to support themselves and their families, the potential of a greater crop yield is lost without additional manpower and tools and equipment. A lack of resources, manpower, specifically, has particular implications for female farmers who are not married and either lack the physical strength or believe they lack the physical strength to clear new sections of the land they possess. Without the option of clearing a new piece of land, they forfeit the chance to produce more food to feed themselves and their families and the economic opportunity to sell more food to earn money.

A lack of finances has grave implications for the farmers. Without finances, they have very little to no leverage to solicit assistance, on or off the farm, in any form. They are unable to

purchase food when crop yields are poor; purchase seeds for the next growing season when they are not able to save seed; hire physically-able farm workers to assist on the farm in order to maintain or increase production; purchase necessary tools and equipment to support efficient farm work; hire transportation to transport product to more lucrative markets; obtain education to improve their farming and/or business knowledge and skills; apply for and accept a financial loan with the confidence of repaying it; access legal services, if needed; pay school fees in order to educate their children; purchase or lease additional land; and increase production. As of 2001, the Small Farmers and Business Bank had distributed 1,999 loan packages to individuals, 27% of which were distributed to farming, fisheries and livestock enterprises (Pisani and Yoskowitz, 2004). However, as discussed in the *Literature Review*, SFBB borrowers' average annual income levels are far above the per capita income level (Pisani and Yoskowitz, 2004), indicating that they are not part of the core poor that micro loans were created to target.

A lack of knowledge and/or fear about applying for financial loans discourages the farmers from attempting to access this potential safety net and helps to ensure that the implications discussed in the last paragraph are at least semi-permanent. But, without access to finances, farmers have very few options for overcoming their challenging circumstances and escaping poverty. Pisani and Yoskowitz discovered that the Small Farmers and Business Bank does not regularly send personnel into the field to solicit loan activity, but requires borrowers to travel to Belmopan to submit an application, which can be cost prohibitive, especially for impoverished farmers (Pisani and Yoskowitz, 2004). But, sending loan officers into the rural farms to discuss micro financing options and provide assistance with application processes may be what is needed in order to facilitate micro loan transactions with low-income borrowers.

A lack of access to lucrative markets also helps to ensure that the lack of finances implications are at least semi-permanent. Without access to lucrative markets, farmers may invest significant time and effort to produce food and/or agricultural products but lack the buyers to make sales and earn income. One may wonder, then, why farmers would continue investing time and effort into producing food and/or agricultural products at all.

A lack of education means that the farmers may not read very well, may not be aware of their rights, and/or may lack certain knowledge and/or skills, such as business or entrepreneurship skills. In general, they do not have access to educational resources, so they devote time to developing needed knowledge and skills through trial-and-error, but this is a lengthy and tedious process that does not usually produce desired results efficiently. This lack of education puts them at a disadvantage and makes it difficult for many farmers to improve their circumstances. In their study, Pisani and Yoskowitz found that the great majority of Belizean Small Farmers and Business Bank borrowers do not have a written business plan, and of their 15 participants, the three entrepreneurs who made late loan payments had no defined business plan (Pisani and Yoskowitz, 2004). Pisani and Yoskowitz recommend that SFBB provide the tools needed to help entrepreneurs succeed (e.g. training in bookkeeping, marketing, management, etc.) (Pisani and Yoskowitz, 2004).

A lack of supportive resources has additional implications for the farmers. Without financial services resources, farmers remain ignorant and in fear about the financial loan process. Without non-traditional finance options, such as financial micro-loans, farmers may have no financial loan options afforded to them. Without legal resources, farmers have no recourse to hold the responsible parties accountable when an accident occurs or a company flees a community without paying its employees.

Without government resources, farmers have nowhere to file a complaint when the land department refuses to process an application or when an international development agency grades a farmer's land but never completes the project. And, these international development failures are incredibly common. When it comes to international development projects, poor performance and the disappointment of project beneficiaries are the *rule* rather than the exception (Ika, 2012). A McKinsey-Devex survey indicates that 64% of donor-funded projects fail (Ika, 2012; Hekala, 2012), and the U.S. Meltzer Commission found that 50% of World Bank projects fail (Ika, 2012). But, one potential remedy is increased project supervision to ensure that projects are finished and completed well (Ika, 2012). It would be helpful if these additional project supervisors accepted complaints from project stakeholders and beneficiaries.

Furthermore, special assistance programs that target female farmers can be effective in closing the gender gap in accessing resources. This has been proven in other parts of the world. For example, in Malawi, when female household heads received a subsidy for both seed and fertilizer through Malawi's Farm Input Subsidy Program, their probability of modern maize cultivation increased by 222%, closing the gender gap in adoption of modern maize (Fisher, 2014).

Finally, high educational fees have implications for farmers. The farmers grow and sell food to earn income, a large portion of which is used to pay educational fees in order to send their children to school. Without these fees, farmers would be able to keep a larger portion of food for their families to consume, rather than setting the food aside to sell in order to earn money. When they did have enough excess product to sell, they would be able to spend their income on utilities and other household necessities rather than almost exclusively on educational fees. For example, they may be able to use the village water meter to wash clothes instead of

washing in the creek, or they may be able to pay for more electricity so that their children could study later into the night. The high educational fees are a source of tension for many of the farmers who prioritize their children's education.

With 119 million rural inhabitants throughout Latin America, 62 million of whom are impoverished (Berdegúé, et al., 2011), the identified barriers also have broad implications at the macro level for local villages, the Toledo District, the country, and the region as a whole. They pose threats to education, justice, food security, and quality of life, all which affect one another and pose additional threats to national productivity, the economy, and development. As such, the national Belizean government, policy and research institutions, and international development agencies, among others, should have an interest in identifying and implementing solutions to these barriers. Below is a list of recommendations for these key stakeholders' consideration.

Recommendations: The recommendations can be categorized as follows: *Educational*, *Financial*, and *Additional Support Services*. *Table 12* lists each category and its corresponding recommendations, and a discussion follows.

Table 12: List of Recommendations

Category	Recommendations
Educational	1. Fully funded primary and secondary education 2. Agricultural entrepreneurship education for female farmers 3. Agricultural entrepreneurship education for youth
Financial	4. Micro finance options as a viable productive resource
Additional Support Services	5. Resource assistance programs (financial, legal, and governmental) 6. Local village task forces and small grants programs 7. Special assistance programs for single female farmers 8. Emergency food and seed programs

Educational Recommendations:

The key stakeholders, including **the government of Belize** and **international development agencies**, should consider three educational recommendations:

1. Fully Funded Primary and Secondary Education: According to research in neighboring Guatemala, a more educated work force has a positive and significant impact on economic growth, with secondary education being the most predominant determinant of growth (Loening, 2005). As such, the Belizean government should fully fund primary and secondary education for all children. The initial investment will result in positive economic growth for the country, and the farmers will be relieved of the great burden of their children's educational fees. The farmers and their families will be able to consume more of the food they grow, rather than setting it aside to be sold. In addition, when they do sell a portion of their product, they will have more discretion about how they spend their earned income, for example, on utilities (e.g. water, electricity), household necessities, or perhaps on farm-related expenses, such as seeds, tools and equipment, additional farm workers, and/or transportation to more lucrative markets. They may also feel more confident about applying for and accepting a financial loan to maintain or expand their current operations knowing that they have fewer expenses and a lower risk of defaulting on the loan. This increased discretionary spending will also help to stimulate local economies.

2. Agricultural Entrepreneurship Education for Female Farmers: As mentioned in previous sections, the female farmers gained agricultural knowledge and skills from their parents and grandparents when they were young. However, they lack agricultural entrepreneurship knowledge and skills, and as a result, struggle to turn their time and effort on the farm into earned income that would help them and their families better manage financial challenges. In

particular, the farmers need skills to access lucrative markets in order to sell their agricultural products at a fair price.

Small and medium-sized enterprises contribute to national productivity, the economy and prosperity, but currently, the rate of enterprise creation in Latin America is very low (Sancho, 2010). In fact, enterprises are created in Asia at 2.5 times the rate as in Latin America (Kantis, et al. 2001; Sancho 2010). Thus, international development agencies should prioritize agricultural entrepreneurship education, including financial literacy, for female farmers. The women-owned small business Making Cents International offers a number of relevant curriculum packages, such as the Agriculture Enterprise Curriculum, which empowers small hold farmers in developing countries to take a commercial approach to their farming practices and develop a business plan (Making Cents International).

3. Agricultural Entrepreneurship Education for Youth: As discussed in the *Results* section, the female farmers and their children have a decision to make regarding which lifestyle – the subsistence lifestyle or the city lifestyle – yields a better quality of life. There are numerous benefits to choosing the traditional subsistence way of life, but when they choose this lifestyle, the participants and their families often struggle to earn enough income to support their basic needs. The city lifestyle is generally not ideal for these indigenous female farmers and their families, but jobs in the city allow them to earn more income. Agricultural entrepreneurship education, including financial literacy, for youth may allow them to remain in the rural agricultural region with their families to farm *and* to increase their opportunities to earn enough income to support their basic needs. For the same reasons presented under *Recommendation #2*, the government of Belize should support agricultural entrepreneurship education for youth in the public school system.

Financial Recommendations:

As presented above, a lack of finances combined with a lack of knowledge and/or fear about applying for financial loans are, perhaps, the greatest barriers female farmers face when attempting to provide for their families. Ensuring gender-equal access to finance at the local level not only benefits the woman, her family and community, but it is necessary for developing countries to compete in the global market (Phillips, 2009). Thus, the key stakeholders, including the **government of Belize, traditional banks, and micro finance organizations**, should consider the following financial recommendation.

4. Micro Finance Options as a Viable Productive Resource: As discussed in the *Literature Review*, micro finance, which refers to an array of financial services to help poor people (Jones, 2009), is a specific example of a productive resource or service that might help women increase their agricultural outputs. It is a mechanism that has enabled low-income people, who are often excluded by conventional financial institutions, to access credit (Weiss and Montgomery, 2005). Micro finance has helped women, in particular, as nearly two-thirds of micro loans are lent to women (Jones, 2006). A typical “micro loan” (i.e. small loan) ranges in size from \$50 to \$35,000, with borrowers in developing countries on the low end of the spectrum and borrowers in developed countries on the high end of the spectrum (Jones, 2009). Micro finance has helped to empower women, fight food insecurity and stimulate local economies (Jones, 2009), but the literature shows, and this study supports the claim that, it has not been effective in reaching the poorest of the poor (Weiss and Montgomery, 2005).

Some suggest that the excitement surrounding micro finance as a means to reduce poverty is not supported by sound research (Zeller and Meyer, 2002). Nevertheless, the government of Belize, research and policy institutions, international development agencies, and

traditional and/or micro finance institutions should work together to advocate for and offer micro-finance options as they may provide a potential solution to the female farmers' significant financial barriers when there are currently none.

The government of Belize, in particular, should consider expanding the Small Farmers and Business Bank's micro loan products to the core poor. The "Microcredit Summit Declaration and Plan of Action" contended that "microcredit programs become vehicles for a variety of desirable social development" (Pisani and Yoskowitz, 2004; Microcredit Summit 1996) and, as individuals are brought into the formal sector through micro finance, there is a positive impact on the government (Pisani and Yoskowitz, 2004).

Additional Support Services Recommendations:

In addition to the educational and financial recommendations outlined above, the female farmers could greatly benefit from additional support services. The key stakeholders, including the **government of Belize, policy and research institutions, international development agencies, and traditional and/or micro finance institutions**, should consider the following four recommendations.

5. Resource Assistance Programs (Financial, Legal, and Governmental): The female farmers lack access to financial, legal and governmental support services, either because they do not exist or because the women do not have sufficient information about them. Thus, it is recommended that the government of Belize and/or international development agencies collaborate with local village leadership to select and empower one community member per village to serve as the *Resource Assistance Program Specialist*. This person would be educated about existing financial, legal and governmental support services and trained to disseminate information about them to community members, in writing and/or by word of mouth, regarding

their rights as citizens, how to file complaints with government or international development agencies, how to pursue legal recourse, and/or how to inquire about financial services including micro loan programs. In addition, it is recommended that the government of Belize and policy and research institutions work together to identify and remedy any gaps in available financial, legal and governmental support services.

6. Local Village Task Forces and Small Grants Programs: Each local village has its own unique set of circumstances and challenges. For example, in Barranco Village, when the creek floods, Areini's (and presumably other farmers') crops are destroyed. In Big Falls Village, although there is the desire to farm together, the women no longer do so. In Indian Creek Village, the female farmers compete to sell their 'jippy jappa' baskets and pot holders to the few tourists who visit the village and lack access to more lucrative markets. By establishing local task forces and giving small grant, the locals would be able to implement solutions deemed necessary and appropriate by *local residents*, rather than international development agencies, whose projects are known to fail often. Thus, it is recommended that international development agencies assist the local villages in establishing task forces that work together to identify and respond to their unique local agricultural challenges in order to become more collectively productive, stimulate their local economies and attain a better quality of life.

The local task forces may consider, for example, building up the creek walls so that the creek does not flood when it rains; installing fencing around community farm land to ward off incessant pests; organizing a collaborative farm work program to increase efficiencies; establishing a tool and equipment sharing program to improve efficiencies; coordinating an agricultural cooperative that pools resources in order to access lucrative markets; organizing an agricultural entrepreneurship course for female farmers, etc.

In addition, to support the local village task forces in the implementation of their interventions, the government of Belize and/or international development agencies should administer a small grants program in order to fund associated labor (e.g. agricultural entrepreneurship or financial literacy trainer(s)), supplies (e.g. sand bags, fence wire, chainsaws, seeds), equipment (e.g. a tractor), transportation (e.g. monthly transportation to Belize City or Placencia for the first year of the cooperative), etc.

8. Special Assistance Programs for Single Female Farmers: Single female farmers face unique barriers, particularly when it comes to the physical labor required on the farm. The main challenge they face is getting started: cutting and clearing new sections of their farm land to begin farming it. In Belize, this task is known as a man's task, not one that a single female farmer would perform. Therefore, single female farmers who desire to begin farming a new section of their land must pay a man to complete this task. But, this is an additional financial hardship, and these women are already at a disadvantage when it comes to farming because they are farming alone, without a consistent partner. Paying a man to clear land for them may not be financially feasible, and if this is the case, they have few options. Thus, it is recommended that the government of Belize, policy and research institutions, and/or international development agencies support single farmers by advocating for and administering special assistance programs for them.

Under the *Special Assistance Programs for Single Female Farmers*, single female farmers would apply to have farm workers clear a new section of their farm land at no cost to the female farmer. While there are no examples of special assistance programs for single female farmers in the literature, in Africa and Asia, conditional cash transfer (CCT) programs have been successful in increasing investments in women's schooling, health and nutritional status

(Quisumbing and Pandolfelli, 2009). CCTs provide incentives for families to keep their girls in school and to delay marriage (Quisumbing and Pandolfelli, 2009). Key stakeholders may consider if and how they could utilize CCTs to support special assistance programs for single female farmers, for example by distributing them to female farmers who increase their farm size and/or output by a certain percentage of their current operations.

9. Emergency Food and Seed Programs: Even if the key stakeholders implement the first seven recommendations, the female farmers may still experience barriers that are beyond anyone's control, namely the seasonal hardships such as drought and flood, which can significantly and negatively impact crop yields and result in food insecurity. In these times, emergency food and seed programs are needed to avoid widespread food insecurity.

But, Central America is a region that is often overlooked by emergency food programs, even in times of food crises (Luke, 2015). In 2015, Central America was plagued by a sustained drought, rising food prices, and a "coffee rust" crisis, leaving two million people food insecure, farmers without work, and development agencies scrambling to raise emergency funds in order to respond (Luke, 2015). As such, the government of Belize, policy and research institutions, and/or international development agencies should organize emergency food and seed programs to support the farmers during their most difficult times. Doing so will not only help the farmers and their families, but it ensures a healthy and well-nourished, productive workforce that has the necessary seeds for a successful growing season, which will contribute positively to economic growth.

Conceptual Framework: On page 73, *Figure 9: How Implementation of the Proposed Recommendations would Enable Female Farmers to Capitalize on Their Initial Assets by Intervening Against the Identified Barriers to Impact Outputs and Outcomes*, provides a conceptual framework that can be evaluated for accuracy and precision in later research.

Beginning at the top of the framework, the female farmers' initial assets, including indigenous agricultural knowledge and skills; determination and persistence; and land and basic agricultural inputs, are listed. If they were not burdened by the identified barriers, the farmers would be able to utilize these assets to fully provide food and other necessities for their families and local communities. The grey arrows below the initial assets box on either side indicate that the assets are a force moving toward the bottom of the framework to positively impact the measurable outputs and outcome. But, currently, without the implementation of the proposed recommendations, the assets force meets resistance in the middle of the framework from the identified barriers, and as a result, their outputs and outcomes are diminished.

The middle section demonstrates how, if implemented, the proposed recommendations would directly intervene against the identified barriers and allow the farmers to capitalize on their assets. The proposed recommendations are color coded by their recommendation categories as follows: Educational (orange); Financial (green); Additional Support Services (purple). The identified barriers are color coded by their major theme categories as follows: Farming Barriers (grey); Business Barriers (blue); and Social Barriers (yellow). The proposed recommendations are enclosed by a hash line, rather than a solid line, indicating that these recommendations must be adopted and implemented in order for them to intervene against the identified barriers. A unique solid line, dotted line, or hash line connects each recommendation with the barrier(s) it would intervene against if implemented (*the type of line, e.g. solid, dotted or hashed, has no*

significance). The grey arrows below the recommendation boxes on either side indicate that, if adopted, the recommendations will be a force moving toward the barriers to directly intervene against them, and, ultimately, toward the bottom of the framework to positively impact the measurable outputs and outcome. The grey arrows above the barrier boxes on either side indicate that the barriers are a force moving against the assets and interfering with them positively impacting the measurable outputs and outcomes. The grey arrows below the barrier boxes on either side indicate that, if the proposed recommendations are implemented, then the assets force will be able to continue moving toward the bottom of the framework to positively impact the measurable outputs and outcome.

The bottom of the framework acknowledges that implementation of the proposed recommendations (or lack thereof) will determine if the two measurable outputs, crop yields and agricultural product sales, are impacted by the forces above. If the recommendations are implemented, then they will block the identified barriers and enable the female farmers to capitalize on their initial assets to positively impact the outputs below, and vice versa. Finally, the outcome, food security, will be impacted in the same way that the outputs are impacted. For example, if crop yields and agricultural sales are positively impacted, they will in turn positively impact food security. The grey arrows below the measurable outputs box on either side indicate that the force continues.

The framework captures how the recommendations most *directly* intervene against the barriers, but many indirect interventions are also possible and anticipated. For example, the recommendation “fully funded primary and secondary education” directly intervenes against the barrier “high educational fees,” as designated by the unique, solid blue line connects the two. While “fully funded primary and secondary education” may *indirectly* intervene against “lack of

resources” because a female farmer may have increased discretionary income to apply toward the purchase of tools and equipment and/or manpower as a result of receiving the fully funded education, there is not a line connecting the recommendation to the “lack of resources” barrier because this is an indirect intervention.

The measurable outputs and outcome listed directly relate to the main research question: When attempting to provide food and other necessities for their families and/or local communities, what barriers do impoverished Belizean female farmers experience? It is very likely that other indirect measurable outputs and outcomes may result (e.g. educational attainment, literacy, etc.), but they are outside the scope and interest of the research question.

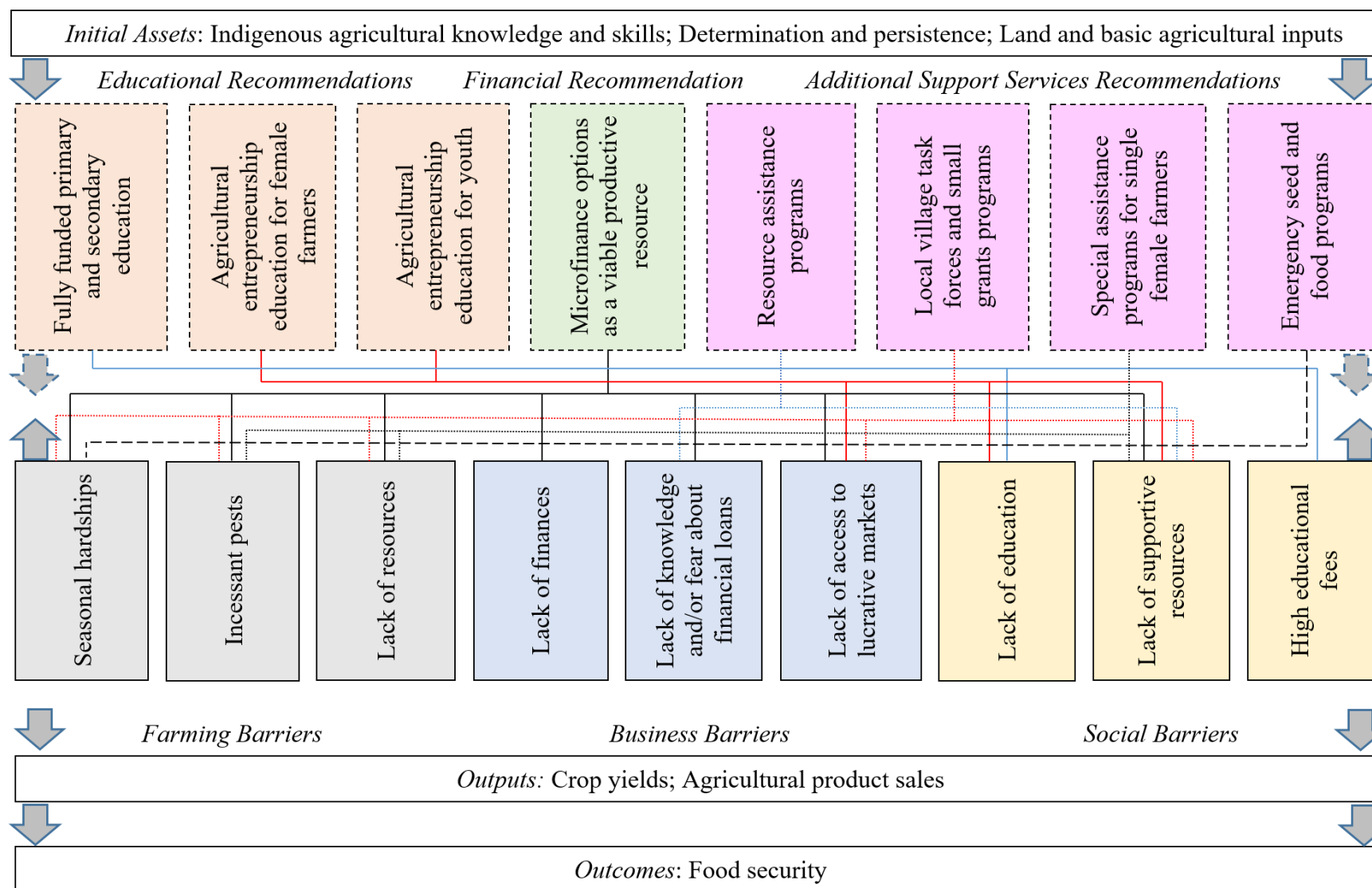


Figure 9: How Implementation of the Proposed Recommendations would Enable Female Farmers to Capitalize on Their Initial Assets by Intervening Against the Identified Barriers to Impact Outputs and Outcomes

CONCLUSION

In the Toledo District of Southern Belize, the impoverished female farmers work tirelessly, whether independently or alongside their husbands, to provide food and other necessities for their families and local communities. While they possess agricultural knowledge and skill as well as the determination and persistence needed to survive, they face a number of farming, business and social barriers that challenge their productivity and keep them trapped in the cycle of poverty. Yet, potential remedies to a number of these barriers exists. The key stakeholders, namely the government of Belize, research and policy institutions, international development agencies, and traditional and/or micro finance institutions, have an opportunity to support and empower the female farmers in their attempts to provide for their families and local communities by considering and implementing the eight recommendations presented above. In doing so, the female farmers will be better equipped, in terms of education, finances and supportive resources, to provide for their families and local communities, and as a result, the Toledo Region and Belize, as a whole, will experience increased productivity, economic growth and prosperity.

Implementing these recommendations will be complex and require communication and cooperation among players at every level. International development agencies, such as USAID, UK AID, UNICEF, and the International Fund for Agricultural Development, should consider integrating these recommendations into their short- and long-term development strategies for Belize. By doing so, they will be able to provide leadership, move these recommendations forward, and advocate on behalf of the female farmers among the key stakeholders.

Lessons Learned: Overall, this research study was a success as, in response to the main research question, it identified nine barriers and helped inform the literature regarding female

farmers' unique experiences and challenges. In addition, it served as an exceptional educational opportunity and facilitated relationships between Americans and Belizeans, promoting cross-cultural understanding and empathy for others. While overall a success, the study may have benefitted from the following adaptations:

1. *Incorporating an Initial Trip for the Purposes of Planning; Key Informant Interviews; and Participant Identification, Selection and Briefing:* By incorporating an initial trip, it would have been possible to meet with the local partner in-person in advance; establish a relationship; and explain the purpose of the study in detail. It also would have provided the opportunity to identify and interview key informants to gain an understanding of the national and regional context in order to develop a more in-depth inquiry approach. In addition, it would have allowed the opportunity to travel throughout the Toledo District; identify potential local villages as research study settings; identify, screen and select participants; brief selected participants; tentatively schedule interviews with them; and secure accommodations in the local villages with participants and/or other local individuals. (*Unfortunately, it was not possible to incorporate an initial trip due to time and funding limitations.*)
2. *Approaching the Research Trip with More Independence:* By approaching the research trip with more independence, for example, by renting a vehicle for transportation, it would have been possible to travel at a slower pace throughout the Toledo District, remaining in each village as long as was necessary, and staying overnight in the villages, rather than returning to Punta Gorda at the end of each day. Furthermore, it would have allowed ample time for each interview and for observations following each interview.

(The University of Belize recommended accommodations in Punta Gorda and University of Belize transportation to maximize safety and security.)

3. *Adapting Participant Briefing Language and Timing:* By adapting participant briefing language, for example, by referring to the *interview* as a *conversation*, for example, the participants may have felt more at ease and comfortable responding to the main research question. In addition, by briefing the participants well in advance of the interviews, they may have been able to better plan logistically for the interview and arranged to meet in a location with fewer distractions (e.g. family members and animals entering the interview space). *(It was not possible to anticipate the participants' uneasiness relating to the research study's methodology and main research question prior to the study.)*

Final Thoughts: Conducting this research study was a great honor and a privilege.

Visiting the participants' villages, homes and farms was a once-in-a-lifetime experience that will not soon be forgotten. The participant interviews not only provided data about the women's contributions to agriculture and the barriers they face in providing for their families and local communities, but also a glimpse into their personal lives and their families' lives – from their daily mundane tasks to their greatest aspirations, challenges, dreams and fears. That they would share these intimate details about their lives is quite humbling.

Women-led, small farm sustainable agriculture is a solid pathway to significantly reducing hunger and malnutrition, and we must capture, document and learn from female farmers' stories so we are able to develop policies that take into consideration their experiences. Including them in the narrative is not only the right thing to do, but achieving food security around the world depends on it. Capturing eight of these stories is a start, but there is a lot more work to do. Future researchers should consider conducting similar and complementary

qualitative and quantitative research studies that evaluate the accuracy and precision of the conceptual framework presented above and contribute potential new findings to the literature.

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APPENDIX A: SEMI-STRUCTURED INTERVIEW GUIDE

1. How old are you?
2. How long have you been farming?
3. How much land do you farm?
4. What products does your farm produce?
5. Does anyone in your immediate or extended family assist you with the farm?
6. Who makes the primary decisions about your farm?
7. Do you farm to provide food for your immediate family?
8. Do you farm to provide food for your extended family?
9. Do you farm to provide food for your local community?
10. If yes, do you give, sell, or trade the food to members of your local community?
11. Do you sell food to people outside of your local community?
12. Have you ever considered increasing the size of your farm? Why or why not?
13. Have you ever considered increasing your production without increasing the size of your farm? Why or why not?
14. Do you own your farm land? If you lease the land, who do you lease it from and at what price? Is it a reasonable price?
15. Do you have the tools and equipment you need to farm your land? Could you benefit from additional tools and equipment?
16. Do you have the human capital you need to farm your land? Could you benefit from additional human capital?
17. Do your children help you farm? If so, at what age do they begin helping on the farm? Do they attend school?
18. Have you ever considered applying for a financial loan to increase your agricultural production? If so, have you ever applied? Why or why not?
19. Do or did you parents or grandparents own land? If so, do they still own the land? If not, who now owns the land? Did your parents or grandparents ever considered gifting the land to you? Why or why not?
20. What are your responsibilities as a wife? What are your responsibilities as a mother?
21. Do you provide care for any extended family members (e.g. a parent, sibling, or other relative)?
22. Do any of these responsibilities interfere with your farming responsibilities?
23. If you did not have these responsibilities, would you be able to increase your farm's production?
24. What are your husband's work and family responsibilities?
25. Who makes the primary decisions about family finances?
26. Have you ever wished your family spent its money differently? If yes, how so?
27. As a woman, are you able to purchase or lease farm land in your local community?
28. Do you have access to transportation to get your products to markets? If so, what is your means of transportation?
29. Are the local road conditions suitable for transporting your products to markets? If not, please explain.
30. What might help you farm your land and/or increase your farm's production?

APPENDIX B: FULL LENGTH PARTICIPANT STORIES

Teresa

Teresa has been farming alongside her husband in a support role for 24 years. They make decisions about the farm together, but he, alone, makes decisions about the family's finances. They farm a total of three acres – two acres of corn and one acre of produce. Teresa's husband inherited the two acres of corn from his parents, and they lease the additional acre for \$75 BZD per year. They are organic farmers.

Teresa remembers when she and her husband began farming years ago. They were living in poverty, neither was educated, and neither was working, and thus, they made the decision to become farmers. They are primarily subsistence farmers but sell some of their product in their local village and neighboring villages for the purpose of earning some income to send their children to school and purchase some basic household items. If she has a lot of extra product, she will occasionally take it via the local bus to Punta Gorda to sell at the market.

Teresa faces many farming challenges, including drought, lack of proper tools and equipment, and lack of manpower, even though her children do contribute to the farm. In addition to farming, she is responsible for cooking, cleaning, and taking care of her children, which entails taking the youngest children to the farm on her back. Her husband leases the one acre of land and 'chops' the corn, a task she does not believe she is strong enough to complete.

Teresa and her family continue to struggle financially, especially to make enough money to send their children to school. She is persistent, however, as she desires to provide educational opportunities for her children that were not afforded to her when she was young. If she could increase the scale of their production, then perhaps the farm would be more profitable, but doing

so would likely require taking a financial loan, which is not something she and her husband would consider due to the high interest rate and fears of defaulting on it.

Despite the family's struggles, they have experienced some successes. For example, all 10 of the couple's children have either finished school or are currently attending school. And, recently, the government installed a water system and meter in the village, which, while convenient, is expensive, so she continues to wash the family's clothes in the nearby creek.

Despite its challenges, Teresa believes that the subsistence lifestyle is better than the city lifestyle because of all the bills (e.g. rent and/or mortgage, vehicle payments, utilities, etc.) associated with living in a city. Following the interview with Teresa, her adult son related that he had temporarily moved to Punta Gorda but was overwhelmed by the city lifestyle and so returned to the village. He is intent on remaining in the village where he can live rent-free with his extended family and contribute to their farming lifestyle.

Dolores

Dolores has been assisting her husband on their farm for 16 years. Her husband is the primary decision maker on the farm, but they make decisions together about their family finances. Like Teresa and her husband, Dolores and her husband are primarily subsistence farmers who sell any excess product to people in their village, neighboring villages and Punta Gorda in order to earn some money to buy household necessities that they cannot produce on their farm. They lease 25 acres, although Dolores does not know from whom they lease the land, and they farm an additional four acres, a portion of the land that was deemed communal by village leadership after a company deserted the land and fled without paying its local employees.

Dolores faces a number of technical challenges, including drought and flood, a lack of proper tools and equipment, and a lack of manpower, even though her children do sometimes assist with the farm. Dolores' greater challenges relate to the market, or lack thereof. Oftentimes, customers cannot afford to pay her asking price, forcing her to sell products for less than she desires or there is no sale at all. She believes that she would be able to sell more products if she and her husband were able to access new markets.

Besides produce, she and her family also make and sell value-added products, such as handmade baskets and potholders, out of 'jippi jappa' palm leaves. They sell them primarily to tourists visiting the village, but since other locals make and sell the same products to tourists, Dolores and her family often struggle to make a sale. Thus, they seek to access a larger market, perhaps via the internet and/or middlemen who can reach far away markets.

Of the eight participants interviewed, Dolores is one of only two who said she has considered applying for a financial loan to expand her farm and attempt to reach new markets, but she has not attempted to apply for a loan because neither she nor her husband knows where

or how to apply for one. She believes that she is at a disadvantage when it comes to leasing land because she is 'just a woman' and applying for a loan because she is illiterate.

Following the interview with Dolores, her adult son asked for assistance in exporting jippi jappa palm leaf baskets to the United States or connecting the family with a middleman with access to new markets.

Magdalena

Magdalena has assisted her common law husband on their farm for nine years. While they make decisions together about the farm, her husband, alone, makes decisions about the family's finances. They primarily grow corn on 25 acres of land that her father-in-law owns, but, due to crop rotation, they only use approximately eight acres of land per growing season, of which there are two per year. Her father-in-law plans to give the land to Magdalena and her husband when he eventually passes away. Magdalena's parents also own land, but she has not discussed with them their plans for their land when they eventually pass away.

Magdalena has been teaching herself, through trial and error, how to both grow and sell; she has not received any formal training or peer instruction. She believes that farming gives her energy, prevents her from becoming sick, and has made her stronger. The family's diet primarily consists of corn, which Magdalena believes is 'very healthy' for them. She also sells corn to people in her village and sometimes in Punta Gorda.

Magdalena and her husband have experienced several technical challenges, for example, drought, rampant wild grasses, and a lack of proper tools. She carries buckets of water from the creek to irrigate her crops and uses a chemical to control the wild grasses. She believes that the government supports the use of this chemical and that all corn growers use it. Unlike Teresa and Dolores, Magdalena thinks that her family (Magdalena, her husband, and their five children) are capable of working their farm; they do not need additional farm workers to assist them. Like the other participants, besides assisting her husband on the farm, Magdalena is responsible for cooking and cleaning.

Magdalena's husband has chosen to prioritize and finance their children's education, but Magdalena disagrees with his decision. She sometimes thinks the family should use their money

to purchase flour or rice to feed their family when their corn yield is poor rather than spending it on their children's education. She spoke openly about this with her children sitting nearby and listening. Nevertheless, all of their children attend school, and her two eldest children attend a private technical school that is even more expensive than public school.

Magdalena believes that women are not allowed to purchase or lease farmland. She has never considered applying for a financial loan because she is concerned that she would not be able to repay it, especially when yields are low due to seasonal challenges.

Juana

Juana does not remember a time in her life when she was not farming. She began going to the farm when she was born and contributing to her family's farm when she was old enough to walk. Her father taught her to farm when she was a very young girl, and as an adult, she has farmed with her husband and 10 children. Juana's husband has made the decisions about their farm and family finances, but he discusses his decisions with her. They currently farm approximately three acres of land. Throughout her life, she and her husband primarily leased their farmland from the government.

Juana never obtained a formal education; farming was her education. Thus, she and her husband have lived as subsistence farmers who depend on their crops for survival. She also sells food to people in her local village and occasionally sells to people from neighboring villages who are passing through her village. She has never traveled to Punta Gorda to sell food.

Juana's main technical challenge relates to pest (e.g. birds, worms) management. She attempts to control them with chemicals, but they are often not completely effective. She has learned throughout her lifetime that the most effective pest management practice is *time* – the pests will leave the land when they are finished eating. Thus, she purposely plants multiple acres of crops to guarantee at least a partial good yield. Unlike some of the other participants, Juana and her family are not lacking the tools they need; in fact, they possess the skills to make their tools out of natural materials.

Juana's life has been very challenging, and the farming lifestyle has been both mentally and physically demanding, but primarily physically. She recalled, when she was younger, carrying her young children to the farm. She described wrapping them in a piece of fabric that hung from her head and then tending to the farm. At times, she would hang them in the same

piece of fabric from a tree branch, but when they began crying, she would return them to her head. This practice made her neck very tired and was physically exhausting.

Juana wants her children to understand how challenging, both physically and mentally, the farming lifestyle is and to learn from her life decisions. She believes that, rather than choosing the farming lifestyle, her children should pursue education and obtain jobs, as it will be an easier lifestyle and also more financially lucrative. Thus, Juana and her husband have prioritized education for their children. Since she and her husband struggled to earn very much money from farming, several years ago, Juana's husband transitioned from farming to a construction job because it provided the money that was needed for their children's education.

As Juana has grown older, she has slowed down and now mostly farms near her home and not on a large farm. Today, her struggles are exacerbated by the increased cost of living (inflation) and increased taxes. Whereas, in the past, she was able to survive by selling a small amount of product, today she must sell a larger quantity in order to earn the money she needs to purchase a few household necessities.

Juana and her husband have never considered applying for a financial loan because they do not want to risk losing their land (through repossession) if they are not able to make their loan payments. Rather than taking a loan and trying to increase the size of their farm, they would prefer to continue farming their small piece of land to the best of their ability and not take on the risk of a loan.

Juana's adult son, Elias, has heeded his mother's advice and pursued education and a job. He completed his bachelor's degree at University of Belize in Punta Gorda and then began working as a mathematics instructor at the local technical high school and at University of Belize. Elias recently purchased a beautiful home for his parents in their home village. He

continues to live in Punta Gorda and has applied for admission to a civil engineering master's program in Taiwan. His long term plan is to earn his master's degree and return to his community to help improve infrastructure and positively influence youth in the local villages.

Both Juana and Elias value generosity. It is part of their culture to give, and Juana taught all of her children the importance of sharing. Juana described the great joy she feels when she gives food to others and allows them to experience her cooking.

Santa

Santa's father taught her how to farm when she was a young child, but she did not share responsibility for farming a piece of land until she became a young adult. She recalls her father being a very authoritative, hard-working man who often lost his temper on the farm, especially if he observed any product waste. He is now deceased, and Santa lives with her boyfriend of 12 years. Together they make decisions about their farm and family finances. Santa enjoys farming and would prefer to be at the farm than at home.

Santa and her husband farm one acre of beans and corn in Santa Elena, her childhood village, which is one hour away by bus from their current home. They farm on a piece of communal land that Santa's father farmed before he passed away. They do not farm in their home village because they believe the soil quality is poor. Santa is not sure if she, as a woman, is allowed to lease or buy farmland. (It is legal for women to purchase land.) She thinks that it may depend on the location of the land. Santa's adult brothers often contribute to the farm, taking instruction from Santa and her husband, and accepting product as a form of payment.

Santa and her husband travel to the farm one or two days per week. On days that Santa travels to the farm, she wakes up very early and breaks during the hottest part of the day. Often times, Santa's husband works longer hours than she does, as Santa stops to prepare meals and devote attention to their household responsibilities. Unlike any of the other seven participants, Santa and her husband do not sell locally, but rather, they travel to Guatemala by bus and horseback to sell their product.

Santa's main technical challenges include the rainy season and pests. There is little she can do to address the seasonal challenges, but she attempts to control pests by using chemicals. Although she becomes discouraged when experiencing these challenges, she persists and is

always motivated by a new growing season. In very difficult times, when she and her husband could not save seed for the next season, she purchases it from her uncle or other relatives.

Santa and her husband have considered increasing the size of their farm and their production, but doing so would be very difficult for them. It would likely require more manpower, and hiring farm workers would require money. Neither Santa nor her husband would consider applying for a financial loan because they are afraid to put themselves in a situation where they would have the burden of repaying the loan. Santa did mention that, at various times in the past, women have worked as teammates on the farm, helping and supporting one another. In these times, she has observed that her yields are improved; unfortunately, recently the women have not had time to assist each other in the field, and so the work has been more difficult.

Unlike any of the other participants' husbands or boyfriends, Santa's husband insisted on being present during the interview, often interrupting to provide his insights and opinions about farming, rather than allowing Santa to express herself.

Areini

Areini's mother taught her how to farm when she was a child, but she has only been farming with her husband for the last 15 years. Currently, they farm two acres of land, which is a ten minute walk from their home. They have applied to the government for a third acre of land partly because this third acre is only a five minute walk from their home, and they desire to reduce their walking time to their farm. Areini is not sure if she would be able to purchase land as a single woman if she were unmarried.

She and her husband make decisions together both about the farm and their family finances. They consider themselves subsistence farmers who occasionally sell some of their product to people in their local village. Rarely, Areini will travel by the public bus to Punta Gorda to sell avocados, which she calls 'pears,' at the market. Areini believes that farming has been a good experience for her because it has allowed her to provide some food for her family.

Areini has lived in her village nearly all of her life, with the exception of eight years when she was a young adult and lived in Belize City. One of the greatest decisions she has ever made was to return to her village to farm. She ultimately made this decision because she loves farming, but she admits that it was a very difficult decision to make because the farming lifestyle is very financially challenging, especially if one has children who need money to attend school. Nevertheless, she believes she made the right decision because she is overwhelmed by the idea of living in a city where one's livelihood is not necessarily secure. To help supplement her farming income, she also works as the community health worker and substitute librarian, and her husband occasionally works other jobs, as well.

Areini and her husband have experienced a number of technical challenges on their farm. Their main challenges include pests and flooding. To address the pests, or 'wee wee ants,' that

kill her crops, she applies a pesticide to the ground to kill them. Since she does not apply any chemicals directly to her crops, she considers her farm organic. She and her husband are mostly capable of farming their land without any additional farm workers; however, they do typically hire another man to assist her husband clear the land at the beginning of each season. If and when they begin to farm the additional acre of land, they will also need assistance with the ‘brush and fall’ or clearing of that land. Increasing the amount of land they farm will help to ensure at least a partial good yield after the pests and potential flooding have taken their tolls.

As with several of the other participants, Areini and her husband prioritized education for their children, financially supporting them not only through secondary school but even through university. None of her children has ever taken a student loan. However, paying school fees, purchasing school uniforms and providing lunch money for her children who attended the technical high school outside of the local village was very burdensome.

Areini described how lack of employment has contributed to a reduction in the village population to approximately 106 people. All but one of her children have left the village to pursue higher education and work in Belize City and Belmopan. She believes that her children want to ‘explore’ while they are young, but she feels very strongly that they should consider earning some money in the city, saving it, and then returning to their village to buy a home. In fact, she has already applied for 25 acres of land per child for four of her five children because she cannot imagine how anyone would not desire to eventually return to the village. She is absolutely overwhelmed by the thought of her children living in a city where they must pay mortgage and/or rent and other bills and purchase food that could be available to them in the village at no cost. She believes that if her children do not learn to farm, then they will have to

resort to purchasing food, which will be very expensive. She is certain that her children are pleased that she is preparing for their return to the village.

Areini is looking toward the future and considering increasing her production by growing a product that would be new to her village – cacao – based on the advice of people in the village of San Felipe who want to expand production of cacao in the region. Her plan would be to sell greater quantities of product in Punta Gorda, although she has not yet figured out how she would be able to transport it since she relies on the public bus for transportation. Increasing production may also require a financial loan, but she would have to think very hard about applying for a loan because she does not want to be repaying it for years upon years, and she is somewhat fearful that her land could be repossessed if she did not successfully repay the loan.

Areini feels very privileged that she lives in a village where there is land to farm and that she possesses the skills required to farm. She would encourage any woman to become a farmer, as she believes there is a great feeling of satisfaction that comes with providing food for one's family. Areini is proud of the legacy that her mother, now 85 years old, left by gifting her farm to her children, and Areini will be proud to one day pass the same farm on to her own children.

Darina

Darina's grandmother taught her how to farm when she was a young girl, and she has been farming since then. She farmed with her late husband while he was alive, but after he died 20 years ago, the way she farmed changed drastically as she could no longer accomplish alone what they could accomplish together. Like many of the other participants, when Darina and her children were younger, she would sell produce in her village and bake and sell bread in Punta Gorda in order to make enough money to send her children to school and pay for some minor bills (e.g. water, electric, gas, etc.). She currently owns 25 acres of land, which is located about two and a half miles from her home, although she does not farm much of it any longer. While she considers herself to be the primary decision maker about her farm, she relies on her adult daughter, who lives in the United States and is currently earning a master's degree, to provide advice.

Darina's greatest farming challenges as a single woman relate to the physical labor tasks, for example, 'cutting' new land, 'slash and burn,' and installing fencing. She does not believe that she, nor any woman, is capable of completing these difficult tasks; she does not have anyone to assist her with them; and she cannot afford to pay someone to help her. Relatedly, while she prefers to farm alongside other women for the moral support it provides, many of them have passed away or are older and no longer physically able to farm. It is now difficult for her to find the motivation to spend long days on the farm.

In addition to these physical labor tasks, pests are a great challenge as they eat a large portion of the crops she plants. She also has few tools, and says that, unfortunately, she has not been 'lucky' enough to receive tools through the programs that have benefited other villagers. She believes that if she had the finances, she would be able to better tend to the farm. In fact, she

desires to ‘cut’ another one or two acres of land and get started on a new farm, but she is overwhelmed by the thought of it as she does not know how she would bring this dream to fruition. She has never considered applying for a financial loan because she fears that the loan administrators would ask too many questions (e.g. What is your salary?; What types of crops will you plant? Etc.).

As Darina has gotten older, she has reduced the amount of time she spends at the farm, partly because she cares for her aging mother. As a result, her farm is not producing good yields, and any crops that are produced are either eaten by pests or stolen by desperate people. She believes that, in order to be profitable, she would need to live on her farm full-time to maintain it, keep pests away and watch for theft. For now, she maintains a small garden outside of her small home in her village, and her adult children occasionally send her some money to purchase household necessities. She also occasionally provides catering when outsiders visit the village. Darina does not eat a lot. When she does not have any food, she eats plain rice. One yam might provide enough food for her for three days.

When Darina was young, she considered herself a quiet, calm woman, but she realized throughout her life, and especially following her husband’s death, that she needed to be more assertive, determined and persistent. She recalled a time, years ago, when she had applied for land through the government, but the land department was not processing her application efficiently. She traveled to Belmopan to follow up on her application, and when she realized that her application had not been processed, she added five acres of land to her original request. She told the land department staff that she would return soon and that if her application had still not been processed, then she would add five more acres to it. Following this visit, the land

department processed her application promptly. She is well aware of her rights and has learned how to be a strong and firm woman.

Darina has not had positive experiences with development agencies. Several years ago, development workers arrived in her village and requested to use her farm for a development project. She agreed and watched them grade three acres of her land with bulldozers, promising to install some wire to help keep pests off the farm. After grading the land, they left and never returned to finish the project. Another time, she was selected to participate in an agriculture workshop in a nearby city at what she called a 'big time hotel.' She lived a luxurious lifestyle and ate very well for that week, but at the end of the program, she had not learned anything because the development workers taught skills that most of the participants already possessed.

Darina plans to pass her land on to her children when she passes away. Although her son does not have any interest in farming, her three daughters and one of her grandsons are interested. Her daughter who lives in the United States has told Darina that, one day, she hopes to move her entire family to the farm to live on the land and build a greenhouse.

Iseri

Iseri's father taught her how to farm when she was a very young girl. Because she showed some interest in farming, he began taking her to the farm very early in the morning to tend to the farm before she went to school. When Iseri's father died when she was a teenager, he left the farm land to his family, but, at first, no one took responsibility for it. After Iseri finished college, she moved to Placencia for a couple of months to work, but while home for a visit, she noticed the farm was overgrown and her extended family were upset because they believed the farm had died with Iseri's father. At that time, she decided to take responsibility for the farm, and since then, her father has been her greatest inspiration on the farm.

Iseri is a single woman living with epilepsy. She lives in her mother's home (her mother lives elsewhere) and cares for her younger sister. She is saving money so that she can, one day, purchase her own home. She also uses the money she earns to pay small utility bills and to purchase some food to supplement what she grows on her farm. She believes that farming has helped to keep her active and has made her stronger. Since beginning farming, she believes that her epileptic seizures have subsided.

A few years ago, while in Punta Gorda, she met an American man she calls 'Mr. Jim' who was very fascinated that she is a female farmer who farms alone. Soon after they met, he became her 'business partner,' assisting on her farm and providing farming and business advice, although he does not share in the profits. Mr. Jim helped Iseri register her business, naming it 'Sexy Organic Farmer Belize.' Iseri said Mr. Jim assists her simply because he was surprised that she is a female farmer who farms alone. Iseri also has an American boyfriend who lives in Placencia who occasionally assists her with her farm and home, for example, operating the tiller for her and doing maintenance work around her house.

Iseri owns 10 acres of land but only farms five acres because she is not able to farm all 10 acres on her own and cannot afford to pay a farm worker to assist with the farm. Several years ago, her uncle, who lives in the United States, began sending her money to pay a farm worker to assist her on her farm, and her farming operation began to thrive. But, not long afterwards, her neighbor's cow became loose and destroyed her farm. This was a great setback for Iseri. The neighbor did not apologize to her or offer to help pay for or repair the damage. He eventually sold the cow and deserted his property, and she had no means of holding him accountable for the damage. At this time, both she and her uncle became discouraged, and her uncle stopped sending money to pay the farm worker to assist her with the farm. The damage is still visible today – two or three years after the incident.

Iseri is an outgoing, vivacious business woman who is well-known in her community, she thinks, because she is friendly. She feels very supported by her community and believes that her customers purchase from her in part because she is a single woman with epilepsy who farms alone. She sells her product to people and restaurants in Punta Gorda as well as people passing by her home from neighboring villages. Most of her customers travel to her farm to pick up their orders (typically chickens and produce), and when they observe her hard work, they often give her some extra money. She, in return, gives them some extra produce or herbs. She receives consistent orders and is working to ensure that she has a consistent supply to meet her customers' demand. Iseri's mother helps to drive business to her farm by maintaining a Facebook page.

While Iseri has experienced challenging times, she has also experienced good times. After her father died and she began farming, many people took notice. When the European Union learned that Iseri, as a single woman, was tending to the farm alone, they built a greenhouse and a packing house on her property to support her farming operation. At the same

time, her uncle, who lives in the United States, purchased a riding lawn mower and push lawn mower to help her clear her land. These gifts energized Iseri and were great motivating factors that led to her decision to commit to becoming a farmer.

Iseri plans to increase the scale of her farm, but she does not have a firm plan in place. She may start by increasing her number of chickens, or her greenhouse production, or maybe raising pigs again. She may also try to start raising tilapia again. (The water level in her tilapia pond became so low that birds ate all the tilapia in the pond.) However, she has been advised by Mr. Jim and others that increasing her production would likely require a financial loan. Iseri would like to apply for a loan, but she is fearful because she is not sure how much she would owe each month to repay it and if she would have the required amount of money available. If she does decide to apply for a loan, she is not entirely sure where she would need to go to apply.

Iseri has surprised everyone including herself by taking responsibility for the farm. She believes that, if her father were still alive, he would be very proud of her for farming, but she also believes that if he had lived longer, he would have trained his sons to be farmers and would have preferred that she work indoors at a desk since she is a woman with epilepsy. Iseri's father continues to be her greatest inspiration; in fact, she has committed to farming organically since she believes that the cancer that caused her father's death was the result of chemical exposure. As she looks to the future, she is helping to train the next generation of farmers – her nieces and nephews who often assist on her farm in exchange for food.

APPENDIX C: LISTING OF TRANSCRIPT INTERVIEW EXCERPTS

(PARAPHRASED) SUPPORTING THEMES AND SUBTHEMES

Farming Barriers

Seasonal Hardships

“...we have no water here. And we don’t get water. It’s kinda hard.”

– *Teresa*, Indian Creek Village

“...the...challenge is...too much sun or too much rain...”

– *Dolores*, Indian Creek Village

“Dry season...is not good.”

– *Magdalena*, Indian Creek Village

“Sometimes when it’s rainy season, it’s raining, raining, sometimes the corns never grew.”

– *Magdalena*, Indian Creek Village

“But when the rains attack [the beans] they don’t grow. They spoil and they, umm, and then that is not good.”

– *Santa*, Big Falls Village

“...we have creek, and whenever it floods, it just come right into the farm...”

– *Areini*, Barranco Village

“...we tried to grow the rice, it was coming up pretty well, but then, umm, the flood just came in. ...it just destroyed the...rice.”

– *Areini*, Barranco Village

“Overall, being a female farmer is a good experience. I plant crops and watch them grow and feel proud. But when my crops are affected by the rain, I feel disappointed and sad. These times are tough and very discouraging. When the next season comes, I forget about the last season and try again, but, if I was not able to save any seed from the last season due to low yields, then I must ask other people to loan some seed to me, or I must purchase it from my uncle or another relative.” – *Santa*, Big Falls Village

Incessant Pests

“When I select and prepare a plot of land for farming, I ensure that the plot is large enough to grow enough food for my family as well as for the animals, birds and worms that will inevitably eat from it. I use chemicals to try to thwart these pests, but they are not entirely effective. The animals come at all different times of the season and of the day, so it is difficult for me to chase them away. Eventually, they finish eating from my farm and move on to eat from my neighbors’ farms.” – *Juana*, Big Falls Village

“A major part of my role as a female farmer is to watch for pests and spray chemicals to ward them off. Deer and birds eat my crops and sometimes even root them up out of the ground.”

– *Santa*, Big Falls Village

“I am constantly fighting with various pests, including the ‘bush dog,’ birds, and ‘wee-wee ants.’ They may eat a portion of my crop, but I work hard to apply pesticides to stop them. The pests leave after I apply the chemicals, but they return a couple days later.” – *Areini*, Barranco Village

“Pests are one of my greatest challenges, and currently, there are many animals on my farm. I fear that when they are finished eating there will not be any food left for me. I would like to farm additional acres of land to ensure there is enough food left for me when the animals are finished eating, but I am an elderly widow who is not physically-able to cut another plot of my farm land, and I cannot afford to pay a farm worker to cut it for me. Years ago, a development agency promised to install fencing to help keep animals off of my farm, but they deserted the project. I believe that if I lived on my farm, which is located two and a half miles from my modest home, I could chase the pests away and they would not eat as much of my food, but I must remain at my home in my village because I care for my aging mother.” – *Darina*, Barranco Village

“I used to farm tilapia, but the tilapia pond water level became very low and birds ate all of the tilapia. I hope to, one day, begin farming tilapia again.” – *Iseri*, St. Vincent Block

Lack of Resources

The participants’ experiences with a lack of resources are paraphrased below:

“I could greatly benefit from utilizing farm workers, but I am not financially equipped to pay them.” – *Dolores*, Indian Creek Village

“My husband and I often consider increasing the size of our farm, but doing so would be very difficult and require a lot of hard work. In order to increase the size of our farm, we would need to hire farm workers, but we cannot afford to pay them.” – *Santa*, Big Falls Village

“Occasionally, in the past, four or five women from the community have made an effort to farm together, rather than independently. Doing so increased our efficiencies and improved our crop yields, which resulted in better product sales. Unfortunately, in recent times, these women have been very busy and have not been able to devote as much time to working as a team. If I had one wish, it would be for these women to begin working together as a team again.”

– *Santa*, Big Falls Village

“When we need to clear some land, my husband and I often must pay another man to assist him with this difficult task. We call it the ‘brush and fall.’ Right now, we would like to clear another acre of land and could use some assistance clearing it.” – *Areini*, Barranco Village

“I own a few tools and could probably borrow tools from people in my community if I needed them. Some people in my community have received tools to support their larger projects, but unfortunately, I have not been lucky enough to be part of those projects.”

– *Darina*, Barranco Village

“As a woman, I am not physically-capable of cutting new pieces of land or doing the ‘slash and burn.’ These are men’s jobs. Therefore, starting a new plot of farm land is one of my greatest challenges. Since my husband passed away twenty years ago, if I want to cut a new piece of land, I must hire a man for this task, which unfortunately, is very expensive. It costs approximately \$50. I would like to cut another one or two acres of land and begin farming it, but I cannot afford to pay a man to clear the land for me and the thought of completing the task myself is very overwhelming.” – *Darina*, Barranco Village

“Years ago, many women in the community would walk to the farms together and work as teammates, supporting one another. While completing our farm work, we would talk and sing and provide encouragement for one another. Often times, I worked harder and longer hours because I did not want to disappoint the other women. Unfortunately, now many of them have passed away or are aging and no longer able to farm. I miss farming alongside these women.”

– *Darina*, Barranco Village

“I own 10 acres of land but only farm five acres of it because, as a single woman who primarily farms alone, I am not able to farm all 10 acres. Customer demand for my farm products is very high and growing, and I would like to expand my operation to my remaining five acres, but I cannot afford to pay farm workers to assist me.” – *Iseri*, St. Vincent Block

Business Barriers

Lack of Finances

“My husband and I began farming years ago because neither of us was working and had no means of earning income. We are both uneducated and did not have many employment options. We have worked hard at farming and been moderately successful, but we still struggle financially. We have 10 children, and most of our earnings are used to pay their school fees. I would like to purchase some tools and equipment, such as a wheelbarrow, and hire farm workers, but we do not have the finances to do so.” – *Teresa*, Indian Creek Village

“My family and I make baskets and potholders out of ‘jippy jappa’ palm leaves and sell them to tourists passing through the village and locals. Unfortunately, often times, customers cannot afford to pay my asking price for the products, so I am forced to sell them at a low price or I lose the sale. This is unfortunate because I would like to purchase more tools or hire farm workers, but I am not financially equipped to do so.” – *Dolores*, Indian Creek Village

“My husband and I struggle financially, especially when the corn yield is poor. In these times, I think we should use our money to purchase flour or rice for the family to eat, but my husband, who makes decisions about our family finances, insists that we prioritize our children’s educational fees.” – *Magdalena*, Indian Creek Village

“Farming is the only lifestyle I have ever known. I did not receive a formal education, so I have depended on farming for survival. But, farming, alone, did not provide enough money for my children’s school fees, so a few years ago, my husband began working in construction to supplement our farming income. In recent times, inflation and increased taxes have posed additional financial challenges; as a result, I must increase my sales so that I have enough money to purchase household necessities.”

– *Juana*, Big Falls Village

“My husband and I would like to increase our production, but this would require hiring farm workers, and we do not have the finances to pay them.” – *Santa*, Big Falls Village

“One of my greatest life’s decisions was to return to my home village after leaving for a few years when I was young. Ultimately, I made a good decision, but being a subsistence farmer in my village has been financially challenging, especially since I have five children with school fees. I often consider attempting to increase my production and sales by taking more product into Punta Gorda to sell at the market, but I have not yet figured out how this would be possible logistically since I rely on the local bus for transportation and would not be able to carry large quantities of product onto the bus.” – *Areini*, Barranco Village

“Farming is very difficult but not very financially lucrative. One of my greatest challenges is making enough money to keep up with the demands of the farm. For example, right now, I do not have enough money to pay a man to clear new pieces of land for me. I do not even make enough money to support myself. My adult children send money to me now so that I can purchase household necessities. – *Darina*, Barranco Village

“Farming is very hard work, but it pays. However, I still struggle financially in many ways. For example, I could benefit from hiring farm workers but cannot afford to pay them. My uncle, who lives in the United States, used to send money so that I could hire a farm worker, but he stopped sending payments after my neighbor’s cow became loose and destroyed my farm. My friend and business partner, Mr. Jim, volunteers his time on my farm because I cannot afford to pay him since I have many utility bills to pay and other expenses.” – *Iseri*, St. Vincent Block

Lack of Finances and/or Fear about Applying for Financial Loans

“I have no doubt that I could apply for and receive a loan, but then I would have to pay it back, and that would be incredibly difficult to do because I only earn enough money from farming to pay my children’s school fees. The loan interest would make repaying the loan even more difficult. I don’t know how much money I would be required to pay or when the money would be due to the lender.” – *Teresa*, Indian Creek Village

“My husband and I have considered applying for a financial loan so that we could expand our farm and produce more crops, but we do not know where to go to apply.”
– *Dolores*, Indian Creek Village

“I have never considered applying for a financial loan because if I have a poor crop yield – for example, during the rainy season – then I will not be able to repay the loan.”

– *Magdalena*, Indian Creek Village

“I have never considered applying for a loan because I fear that I would not be able to repay it, and in that case, the lender would charge a very high interest on the loan or take it away altogether. My husband and I would prefer to put the small piece of land we already have to good use rather than taking a risky loan to try to increase the size of our farm.”

– *Juana*, Big Falls Village

“I have never considered applying for a financial loan because I am afraid of putting myself into that situation where I am indebted to the lender and have to make continual loan repayments.”

– *Santa*, Big Falls Village

“I would have to think very hard about applying for a financial loan. I would not want to be repaying the loan, and sometimes people who take loans are still repaying them 10 or 15 years later. Ultimately, if you do not repay the land, the lender will repossess your land.”

– *Areini*, Barranco Village

“I have never considered applying for a financial loan. The entire process would be too bureaucratic. The lender would ask too many questions about my salary, my farm, my crops, etc.” – *Darina*, Barranco Village

“I would like to apply for a financial loan, but I am afraid. Many of my friends have advised me to apply for one so that I could build a larger chicken coop and keep 100 chickens, rather than 50 chickens, at a time. But, I have to pay utility bills, and I help financially support my younger sister, niece and nephews, so I am fearful about having an obligation to repay a loan. I may be able to make the payments, but it depends on how much I would owe per payment and the repayment schedule, and I do not know these details. If I do decide to apply for a loan, I think I would apply at one of the two banks in Punta Gorda, but I am not entirely sure. Do you know where I would apply?” – *Iseri*, St. Vincent Block

Lack of Access to Lucrative Markets

“I sell some product in my village and the neighboring villages, and occasionally, when I have a lot of product to sell, I will travel to Punta Gorda by bus to sell them at the market. Even so, I struggle to make enough money to support my family.”

– *Teresa*, Indian Creek Village

“I sell my products in my village, in the neighboring villages and, sometimes, in Punta Gorda. Tourists, who visit my village, like my products – baskets and potholders made from ‘jippy jappa’ palm leaves –, but I face a lot of competition from my neighbors who make and sell the same products. Sometimes my customers cannot afford to pay my asking price, so I am either forced to sell my products for very little money, or there is no sale. I believe my family could sell more products if we had access to new markets. I would like to sell my products to a middleman who is able to reach more lucrative markets by distributing and selling them in far-away

locations. Could you help my family export baskets and potholders to the United States?” – *Dolores*, Indian Creek Village

“I sell corn and some produce to people in my village, and I occasionally travel to Punta Gorda to sell at the market. Unfortunately, I struggle to make enough money.”
– *Magdalena*, Indian Creek Village

“I sell my products to people in my village and sometimes to people who are passing through my village. I have never traveled to Punta Gorda to sell my product. Unfortunately, farming did not provide my family with sufficient income, so recently, my husband began working in construction.” – *Juana*, Big Falls Village

“My boyfriend and I travel to Guatemala to sell our beans and corn. The roads are not always reliable. To make the journey, we travel by bus and then by horse.”
– *Santa*, Big Falls Village

“I mostly sell my products within my village of 106 people. Very rarely, while my avocados are ripening, I will take them to Punta Gorda to sell. My products are far superior to those sold at the market in Punta Gorda. It is difficult for me to believe that people pay such high prices for produce in the larger towns and cities when they are of lower quality. I am considering increasing my production and taking more products to Punta Gorda to sell, but I rely on the bus for transportation, so the amount of product I am able to transport at one time is very limited.”
– *Areini*, Barranco Village

“Over the course of my life, I have sold my products to people in my village and occasionally, I have sold value-added products, such as bread, in Punta Gorda. Unfortunately, farming is not profitable.” – *Darina*, Barranco Village

Social Barriers

Lack of Education

“My husband and I are both uneducated, but we prioritize our children’s education because we want to give them opportunities that were not given to us. The reason I go into the bush at all is to provide my children with the education I never received.” – *Teresa*, Indian Creek Village

“I am just a woman, and even though I think it is possible for women to lease farmland, I do not know how to do it. My husband and I lease our farm land, but he knows the details, such as who owns the land, and I do not. My husband and I have thought about applying for a financial loan, but neither of us knows where to go to apply. When people are illiterate, they often do not know how to do these things.” – *Dolores*, Indian Creek Village

“I never received education or training relating to farming, so I have used ‘trial and error’ to teach myself how to farm and sell products. When something I try does not work, I try something different until I get the desired result. As a woman, I do not think it would be legal for me to purchase or lease farm land.” – *Magdalena*, Indian Creek Village

“I did not receive a formal education; farming was my education. But today, less priority is placed on farming and more is place on education. My husband and I have prioritized education for our children, and our adult son is applying for a master’s program in Taiwan. I do not want my children to be farmers because being a farmer is very physically-demanding. But, even if my children do decide to become farmers, formal education will help them on the farm.”

– *Juana*, Big Falls Village

“As a woman, I do not know if it is legal for me to lease or purchase farm land. It may depend on the location of the land and the local laws.” – *Santa*, Big Falls Village

“I do not think it would be legal for me to purchase land without my husband because I am a woman.” – *Areini*, Barranco Village

“In the past, I have been excited to attend subsistence farming workshops hosted by development agencies because I have desired to learn something new. Unfortunately, the workshops I have attended have not been useful as the knowledge and skills I lack and need were not presented.

– *Darina*, Barranco Village

“I have considered applying for a financial loan, but I am not sure how to apply for one or where to go to inquire about applying for one. I would also like to increase my farm operation and production, but I do not have a firm plan in place to move forward and rely on my friends for business advice.” – *Iseri*, St. Vincent Block

Lack of Supportive Resources

“I could benefit from a financial loan, but I would not consider applying for one because the interest rates are too high.” – *Teresa*, Indian Creek Village

“Recently, a company that had been utilizing village farm land fled without paying its employees.” – *Dolores*, Indian Creek Village

“When I applied for land, the land department would not process my application. When they finally did process it, they did not notify me that my application had been approved. As a result, I missed my first payment. As a widow, I have had to learn to be a strong and firm woman.”

– *Darina*, Barranco Village

“Years ago, I agreed to allow development workers to use my farm land for a project. They graded three acres of my land with bulldozers and promised to install wire to keep the pests out of my field, but they deserted the project and never returned to finish it.”

– *Darina*, Barranco Village

“One of my greatest setbacks occurred a few years ago when my neighbor’s cow became loose and destroyed my farm. The neighbor never offered to pay for or repair the damage. He never even apologized. He eventually sold his cow and moved. The damage is still visible.”

– *Iseri*, St. Vincent Block

High Educational Fees

“I have 10 children. Two of them have finished school and the remaining eight are still in school. Nearly all of the money my husband and I earn from farming is spent on school fees. We struggle to earn enough money to send them all to school.” – *Teresa*, Indian Creek Village

“My five children are in school, and it is very expensive. Two of them attend the technical high school, which is even more expensive than other schools. Their school fees are very burdensome. Sometimes I think our family needs to spend our money on flour or rice to feed our family, but my husband insists on paying our children’s school fees instead. It is a difficult decision.”
– *Magdalena*, Indian Creek Village

“My husband and I prioritized education for our ten children, but farming did not provide enough money to pay their school fees, so my husband began working a construction job.”
– *Juana*, Big Creek Village

“Remaining in the village has been financially challenging, especially because I raised children who needed money for school fees, uniforms and lunch.” *Areini*, Barranco Village

“When my children were young, I would bake bread and take it to Punta Gorda to sell in order to pay for their school fees.” – *Darina*, Barranco Village